JAMAICA.

ANNUAL REPORT

OF THE

ISLAND MEDICAL DEPARTMENT

FOR

THE YEAR ENDED 31ST DECEMBER, 1928.

Ordered by His Excellency the Governor to be Printed.

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No.

JAMAICA.

THE GOVERNOR to THE SECRETARY OF STATE.

(Received 25th November, 1929.)

[*Answered by No.* .]

(No. 530.)

MY LORD, King's House, Jamaica, 11th November, 1929.

I HAVE the honour to transmit to Your Lordship the accompanying 15 copies of the Annual Medical Report of Jamaica for the year 1928.

2. Since the events described in the 1928 Report the Legislative Council has adopted the report of a Committee to inquire into the reorganisation of the Medical Service and steps are now being taken to put these recommendations in force during the financial year 1930-31. (In this connection see my despatch No. 271 dated the 31st May, 1929*.)

3. The following works have been completed or are nearing completion :—

	£
General Improvements and new Ward Lunatic Asylum	6,660
New Hospital, St. Ann's Bay	14,000
Montego Bay new Hospital	20,500
Savanna-la-Mar Hospital Private Ward and Nurses' Quarters ...	3,300

and the following works have been started :—

Improvement of the Water Supply, Lunatic Asylum	1,000
Home for Nurses, Kingston Hospital	8,000
New Hospital at Black River	17,000

4. A statement of the recommendations made by the Superintending Medical Officer in his Annual Reports for 1927 and 1928 is annexed together with my comments thereon.

I have, &c.,
R. E. STUBBS,
Governor.

Enclosure in No. .

ANNEXURE.

RECOMMENDATIONS OF THE SUPERINTENDING MEDICAL OFFICER CONTAINING IN THE REPORT FOR 1927, PAGES 2 AND 3.

TUBERCULOSIS.

(i) *All Public General Hospitals should have accommodation for pulmonary tuberculosis cases and clinics for advice and treatment of early cases.* A tuberculosis clinic has been started in St. Mary and in course of time similar work will be begun in other parishes when each parish has its whole-time Medical Officer of Health.

There is very little accommodation for tubercular cases in most of the Public General Hospitals. A clinic has been started in Kingston (*vide* 1928 report).

(ii) *All Poor Houses should have adequate wards for the isolation of pulmonary tuberculosis cases.* Some Parochial Boards have provided accommodation for tubercular paupers and others have improved existing accommodation, but there are very few parishes in which such cases receive the attention and nursing that they really need. It is, however, rare for early cases, which might recover under treatment, to go into the Poor House.

(iii) " Education of public opinon as to the nature, means of spread and prevention of pulmonary tuberculosis." This is being done by lectures throughout the Island and by the issue of pamphlets (circulation 15,000) by the Bureau of Public Health Education. Posters are also exhibited in public places.

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* No. C. 66086/29 [No. 1].

Med. and San.—**Gp. 6.** 56/2179. 24. 12/29. (4457) M. & S.

Venereal Disease.

(i) *Increased facilities for the treatment of cases in hospitals outside Kingston.* There has been some improvement.

(ii) *Free treatment centres where there are no hospitals.* No action has yet been taken in this matter, but it is hoped that when the dispensaries which have been recommended by the Legislative Council Committee have been built that they will serve this purpose.

Recommendations of the Superintending Medical Officer in his 1928 Report—pages 4 and 5.

Tuberculosis.

(i) *Better provision in the Poor Houses for tubercular patients.* It is hoped to effect an improvement. The Government is at present in communication with some Parochial Boards on this matter.

(ii) *Out-patient clinics.*
(iii) *A few beds in each Public Hospital.* } These matters will be kept in view.

(iv) *A continuance of the education of the public on the essential facts and on the means of the prevention of the spread of the disease.* The existing methods are being continued.

Venereal Diseases.

Improved facilities in the country hospitals are needed. This matter is not being lost sight of.

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MEDICAL DEPARTMENT.

REPORT FOR THE YEAR ENDED 31ST DECEMBER, 1928.

I.—ADMINISTRATIVE.

The establishment for 1928 was:—

A. MEDICAL STAFF.

1 Principal Medical Officer.
1 Senior Sanitary Medical Officer.
1 Port Health Officer.
1 Senior Medical Officer, Public Hospital.
4 Resident Medical Officers, Public Hospital.
1 Supernumerary Medical Officer.
1 Dental Surgeon (part-time), Public Hospital.
1 Matron, Public Hospital.
1 Assistant Matron, Public Hospital.
1 Dispenser, Public Hospital.
1 Assistant Dispenser, Public Hospital.
1 Bacteriologist and Pathologist, Public Hospital.
1 Medical Superintendent, Lunatic Asylum.
3 Resident Medical Officers, Lunatic Asylum.
1 Dispenser, Lunatic Asylum.
1 Visiting Surgeon, Jubilee Maternity Hospital.
1 Matron, Jubilee Maternity Hospital.
1 Assistant Matron, Jubilee Maternity Hospital.
45 District Medical Officers.
1 Medical Officer in charge of an Out-station.
17 Dispensers in Public General Hospitals.
19 Matrons in Public General Hospitals.
1 Medical Attendant, Lepers' Home.
1 Superintendent and Dispenser, Lepers' Home.
1 Matron, Lepers' Home.

B. Clerical Staff at Headquarters.

1 Chief Clerk.
1 1st Class Clerk.
1 2nd Class Clerk.
5 Assistants.
1 Typist and Stenographer.
1 Medical Storekeeper.
2 Assistant Medical Storekeepers.

C. Appointments, Changes, etc., in the Principal Members of the Staff.

Dr. L. E. Johnson was appointed District Medical Officer, May Pen.
Dr. W. G. Farquharson, District Medical Officer, Christiana, died during the year.
Dr. A. G. McKenley was transferred to the Christiana District.
Dr. T. A. Dryden, District Medical Officer, Glengoffe, resigned.
Dr. H. H. James was appointed District Medical Officer, Glengoffe.
Dr. A. M. Mills, District Medical Officer, Adelphi, died during the year.
Dr. A. R. C. Hayden was appointed to act as District Medical Officer, Falmouth.
Dr. R. F. C. Cooper was appointed District Medical Officer, Manchioneal.
Dr. C. E. Vaz was appointed as Supernumerary Medical Officer.
Dr. G. H. Robertson, District Medical Officer Ulster Spring, resigned.
Dr. S. J. Arthurs was appointed District Medical Officer, Ulster Spring.
Dr. S. R. M. Gordon was appointed District Medical Officer, Duncans.
Dr. G. N. Hargreaves, Ag. Bacteriologist and Pathologist, was transferred to the East African Medical Service during the year.
Dr. G. P. Allen and Dr. W. A. S. Browne were appointed to act as part-time Medical Officers, Bacteriological Laboratory.

D.—Medical Staff and Principal Members of the Subordinate Staff.

Appointment.	Name and Qualifications.
Principal Medical Officer	Wilson, B. M., M.D., Ch.B., D.P.H., Manch.
Senior Sanitary Medical Officer	Strathairn, G. C., M.B., Ch.B., D.P.H., Edin.
Senior Medical Officer, Public Hospital, Kingston	Westmorland, A. S., M.R.C.S., Eng., L.R.C.P., Lond., D.T.M., Lond.
Resident Medical Officer, Public Hospital, Kingston	Baxter, G. F., M.R.C.S., Eng., L.R.C.P., Lond.
Do. do. do. do.	deMercado, A. (a)
Do. do. do. do.	Clark, L. M., M.R.C.S., Eng., L.R.C.P., Lond.
Do. do. do. do.	Hayden, A. R. C., L.M.S., Nova Scotia, M.D., C.M., Dalhousie.
Supernumerary Medical Officer, Public Hospital, Kingston	Vaz, C. E., L.R.C.P. & S., Edin., L.R.F.P. and S., Glas.
Part-time Dental Surgeon, Public Hospital, Kingston	DePass, S. C., D.D.S.
Matron, Public Hospital, Kingston ..	Douglas, A. J. (Miss)
Assistant Matron, Public Hospital, Kingston ..	Walton, A. (Miss)
Dispenser, Public Hospital, Kingston ..	Gordon, R. A. N.
Assistant Dispenser, Public Hospital, Kingston ..	Millwood, L. E.
Government Bacteriologist and Pathologist (acting)	Allen, G. P. F., M.B., Ch.B., Liverpool.
Medical Superintendent, Lunatic Asylum, Kingston	Hewson, R. D., L.R.C.P. & S., Edin., L.F.P. & S., Glas.
Resident Medical Officer, Lunatic Asylum, Kingston	Myers, J. S. (a)
Do. do. do. do.	Cameron, J. J., M.R.C.S., Eng., L.R.C.P., Lond.
Do. do. do. do.	Murray, U. N., M.C.P. & S., Ont.
Dispenser Lunatic Asylum, Kingston ..	James, W. A.
Visiting Surgeon, Jubilee Hospital, Kingston (acting)	Grabham, M., M.R.C.S., Eng., L.R.C.P., Lond., M.B., B.C., Camb.
Matron, Jubilee Hospital, Kingston ..	Thompson, M., (Miss)
Assistant Matron Jubilee Hospital, Kingston	McNeil-Smith, E. (Miss)
District Medical Officer, Kingston ..	Gifford, Lawson, M.D., C.M., Edin.
Do. do. Gordon Town ..	Atkinson, R. M. (a)
Do. do. Lower St. Andrew ..	Edwards, C. R., M.R.C.S., Eng., L.R.C.P., Lond.
Do. do. Stony Hill ..	Davidson, R. H. (a)
Do. do. Morant Bay ..	Anderson, A. A (a)
Do. do. Hagley Gap (acting) ..	Bartlett, T. M., M.B., C.M., Edin.
Do. do. Plantain Garden River ..	Evans, F. R. (b)
Do. do. Port Antonio ..	Moseley, C. A., M.D., C.M., Halifax, M.R.C.S., Eng.
Do. do. Manchioneal ..	Cooper, R. F. C., L.M.S., Nova Scotia, M.D., C.M., Dalhousie.

(a) Registered under Law 49 of 1908.
(b) Registered under Laws 1872-1896.

Appointment.	Name and Qualifications.
District Medical Officer, Buff Bay	Gideon, E.D., M.R.C.S., Eng., L.R.C.P., Lond.
Do. do. Annotto Bay ..	Joslen, H., M.D., Durham, M.R.C.S., Eng., L.R.C.P., Lond.
Do. do. Highgate ..	Ritchie, F. A., L.R.C.P., & S., Edin., L.F.P. & S., Glas.
Do. do. Port Maria ..	Lecesne, G. I., M.B., Ch.B., Edin.
Do. do. Gayle	Escoffery, W. I., M.B., Ch.B., Aber.
Do. do. St. Ann's Bay ..	Myers, A. E. C., M.B., Ch.B., Aber.
Do. do. Claremont ..	Curphey, A. G., L.R.C.P. & S., Edin., L.F.P. & S., Glas.
Do. do. Cave Valley ..	Strudwick, H. T. (a)
Do. do. Brown's Town ..	Wilson, W. E., L.R.C.P. & S., Edin., L.F.P. & S., Glas.
Do. do. Falmouth ..	Barnes, J. A. (a)
Do, do. Clarks Town ..	Gordon, S. R. M. (a)
Do. do. Ulster Spring ..	Arthurs, S. J. (a)
Do. do. Montego Bay ..	Tate, D. L., M.B., Ch.B., Glas., F.R.C.S., Edin.
Do. do. Adelphi (acting) ..	Lowe, F. E., M.R.C.S., Eng., L.R.C.P., Lond.
Do. do. Lucea	Baillie, F. W. W., M.B., Ch.B., F.R.C.S., Edin.
Do. do. Green Island ..	Sherlock, R. G., L.R.C.P., & S., Edin., L.F.P. & S., Glas.
Do. do. Sav.-la-Mar ..	Harvey, C.E., M.B., C.M., Edin., L.R.C.P., Lond.
Do. do. Little London ..	Sinclair, F. A., M.B., C.M., Edin.
Do. do. Lambs River ..	Sanford, Noel (a)
Do. do. Grange Hill ..	Isaacs, S. A. (a)
Do. do. Black River ..	Johnston, C. D. (a)
Do. do. Santa Cruz ..	Calder, J. A. L., M.B., C.M., Edin.
Do. do. Balaclava ..	Lofthouse, W. O. R., L.R.C.P. & S., Edin. L.F.P. & S., Glas.
Do. do. Mandeville ..	Hargreaves, G., L.R.C.P. & S., Edin., L.F.P. & S., Glas.
Do. do. Porus	Stimpson, R. M., L.R.C.P. & S., Edin., L.F.P. & S., Glas.
Do. do. Mile Gully ..	McKenley, A. G., L.R.C.P. & S., Edin., L.F.P. & S., Glas.
Do. do. Newport ..	Mott-Trille, R. (a)
Do. do. Frankfield ..	Thomas, A. J., L.R.C.P. & S., Edin., L.F.P. & S., Glas.
Do. do. Chapelton ..	Thomson, A. W., M.B., C.M., Aber.
Do. do. May Pen	Johnson, L. E., M.B., Ch.B., Liverpool.
Do. do. Four Paths, Alley ..	Lyon, L.B., M.C.P. & S., Ont., M.B., Toronto.
Do. do. Croft's Hill	Watson, J. A., L.M., Nova Scotia.
Do. do. Spanish Town ..	Campbell, G. P. (b)
Do. do. Old Harbour ..	Clarke, A. T. (a)
Do. do. Linstead ..	Clark, L. M., L.R.C.P. & S., Edin., L.F.P. & S., Glas.
Health Officer and District Medical Officer, Port Royal (acting)	McIntosh, J. N., M.B., Ch.B., Edin.
Medical Officer in charge of Out-station, Southfield, Malvern	Castle, H. B., L.S.A., Lond.
Medical Attendant Lepers' Home, Spanish Town	Campbell, G. P. (b)
Superintendent and Dispenser, Lepers' Home, Spanish Town	Levy, E. A.
Matron Lepers' Home, Spanish Town ..	McPherson, M. (Miss)

II.—PUBLIC HEALTH.

General Remarks.—

The year 1928 was a time of steady progress in all branches of the Medical Department and the allied organisations.

The Hookworm Commission is now in its tenth year of work. This systematic work in one parish after another has been of great value from the point of view of health education quite apart from the actual results of treatment. The cost of the campaign has, by agreement between the Rockefeller Foundation and the Jamaica Government, been gradually taken over by the Government. The method of the Commission is to establish a Sanitation Unit in the selected area. This Unit attends to the provision of good latrines throughout the area. Householders in nearly all cases do this at their own expense but in some cases assistance is provided from public funds. It has been found, as the result of experience, that latrines

(a) Registered under Law 49 of 1908.
(b) Registered under Laws 1872-1896.

built at the occupier's cost are subsequently maintained in much better condition than those built from public funds. When the Sanitation Unit completes its work the personnel moves to another area or parish and the Treatment Unit proceeds at once to make a complete survey and examination of all the inhabitants, followed by treatments controlled by subsequent examinations of the stools. It was found during 1928 that with only one Sanitation Unit to prepare the way for two Treatment Units there was a likelihood of a Treatment Unit being delayed so the Legislative Council was asked to vote sufficient money to establish two Sanitation Units. This was granted and the second one was ready to start work on 1st January, 1929.

The Malarial Survey continued during 1928. The Government of Jamaica voted £1,200 towards the cost of this work. The balance of the cost was borne by the Rockefeller Foundation. The Survey was planned by Dr. Mark F. Boyd who spent several months in the Island. Dr. F. W. Aris was appointed Medical Officer and he has proved to be a most zealous and enthusiastic worker. The Survey was almost completed by the end of the year, every part of the Island having been reached.

349 schools were visited, 9,854 children examined and 9,450 blood smears taken.

As the result of the Survey, Dr. Boyd believes that anti-malarial work can be carried out with good prospect of success at a cost not disproportionate to the great benefit likely to result. Definite malarial control work will be begun in three centres during 1929.

The Tuberculosis Survey was commenced in 1928. The whole cost of this, apart from drugs supplied, is at present borne by the Rockefeller Foundation. A Clinic was established in Kingston, the primary object of which was to obtain definite information of the prevalence, mode of spread and type of the disease, but the Clinic rapidly and inevitably became a treatment centre as well. The problem of dealing with the disease is one of the most difficult, and up to the present very little has been done, but it is hoped that 1929 will provide opportunity and funds to deal with some of the aspects of this question. The matter awaits a Report from Dr. Eugene L. Opie who is Director of the Survey. The immediate requirements are (1) better provision in the Poor Houses for tubercular paupers (2) Out-patient Clinics (3) a few beds in each public hospital for these cases (4) a continuance of the education of the public on the essential facts and on the means of the prevention of the spread of the disease.

Sanitation and Medical Inspection of Schools.—There is no medical or sanitary staff attached to the Education Department. Less than 20% of the Elementary Schools are Government Schools, the others are Denominational in receipt of Government grants. The latrine accommodation in many of these schools is not satisfactory, but steady improvement is being made. The schools are inspected by the Medical Officers of Health or the Sanitary Inspectors, but the School Managers often have difficulty, owing to lack of funds, in carrying out the desired improvements. The Sanitation Units of the Hookworm Commission have however, usually been able to have the necessary work carried out at the schools in the areas in which they are working. The schools which are built by the Government are provided with good sanitary accommodation. Medical Inspection of school children has been done to a limited extent, but this work can be increased as the Public Health Organization of the parishes extends and improve.

School Hygiene Work.—This consists of Dental Clinics the cost of one quarter of which is borne by the Rockefeller Foundation and three quarters by the Parochial Board. These Clinics are now at work in four parishes.

The School of Sanitary Inspectors held another session during the year. Eighteen students completed the 3 months' course of whom 15 received the certificate of the Royal Sanitary Institute of London. The training received by the students is of very great value. Many of them are Sanitary Inspectors who are sent up for the course by the Parochial Board which employs them.

The parish of St. Mary was the first of the parishes to establish a Health Department on an entirely new basis. The Medical Officer of Health is a whole-time officer who has had special training in Public Health Work. He is under the control of the Central Board of Health. The cost of the Unit is estimated at £2,000 p.a. of which one-half is provided by the Parochial Board, one quarter each by the Rockefeller Foundation and the Government. The work began on 1st October, but the experience of the first 3 months is enough to make it evident than an important step in advance has been taken in the public health administration of the Colony.

Fuller details of all these public health activities will be found in the Report of the Co-operative Public Health Work which accompanies this Report and in other sections of this Report.

An important means of Public Health Education is the publication "Jamaica Public Health". This is edited by Dr. Washburn, the Director of the Bureau of Public Health Education. The circulation is about 15,000.

It will be readily understood that the public are taking an increased interest in health matters and that co-operation, which is so essential to success, is steadily improving. The local press are always ready to help by publishing matters of general interest.

The relations between the Parochial Boards and the Central Board of Health were entirely satisfactory throughout the year.

The Committee of the Legislative Council appointed to enquire into the Re-organization of the Medical Service of the Colony commenced its sittings during the year. The Committee was appointed by Resolution of the Council on 20th October, 1926.

This Resolution was the outcome of a debate in the Council on a Memorandum on the Medical Service which I submitted to the Government earlier in the year and which was laid on the table of the House.

Alastrim.—There were only 47 notified cases during the year of which 21 occurred in Clarendon. This good return was anticipated in my Report for 1927 as there were only 38 cases during the latter half of that year.

Dysentery.—The number of cases notified was 257, a slight increase over last year and more cases were treated in Kingston Hospital.

Enteric Fevers.—The number of cases notified was 1,252 compared with 1,189 in 1927. The Kingston Hospital treated 396 cases with 104 deaths, the Public General Hospitals 512 cases with 117 deaths.

These figures show no improvement whatever on last year and Enteric Fever continues to be one of the most prevalent of the controllable diseases.

Malarial Fevers.—This is not a notifiable disease and I am not in favour of adding it to the list. The information acquired in the course of the Survey is far more accurate than that afforded by notifications

unconfirmed by microscopic examination and the control of the disease should be dealt with by the Malarial Commission working on definite lines. The number of cases treated in the hospitals in the country is in excess of the numbers of last year but fewer cases were treated in Kingston.

Pulmonary Tuberculosis.—The number of cases notified was 933 compared with 797 in 1927. This is not an indication of its increase but is certainly due to improved notification resulting from the increased public interest aroused by the Tuberculosis Survey. It has been evident for some years past that only a small proportion of the pulmonary tuberculosis cases have been notified.

Syphilis.—In district hospitals there were 664 in-patients and 2,964 out-patients. In Kingston Hospital there were 740 in-patients.

Gonococcal Infections.—In district hospitals there were 501 in-patients and 730 out-patients. In Kingston there were 407 cases.

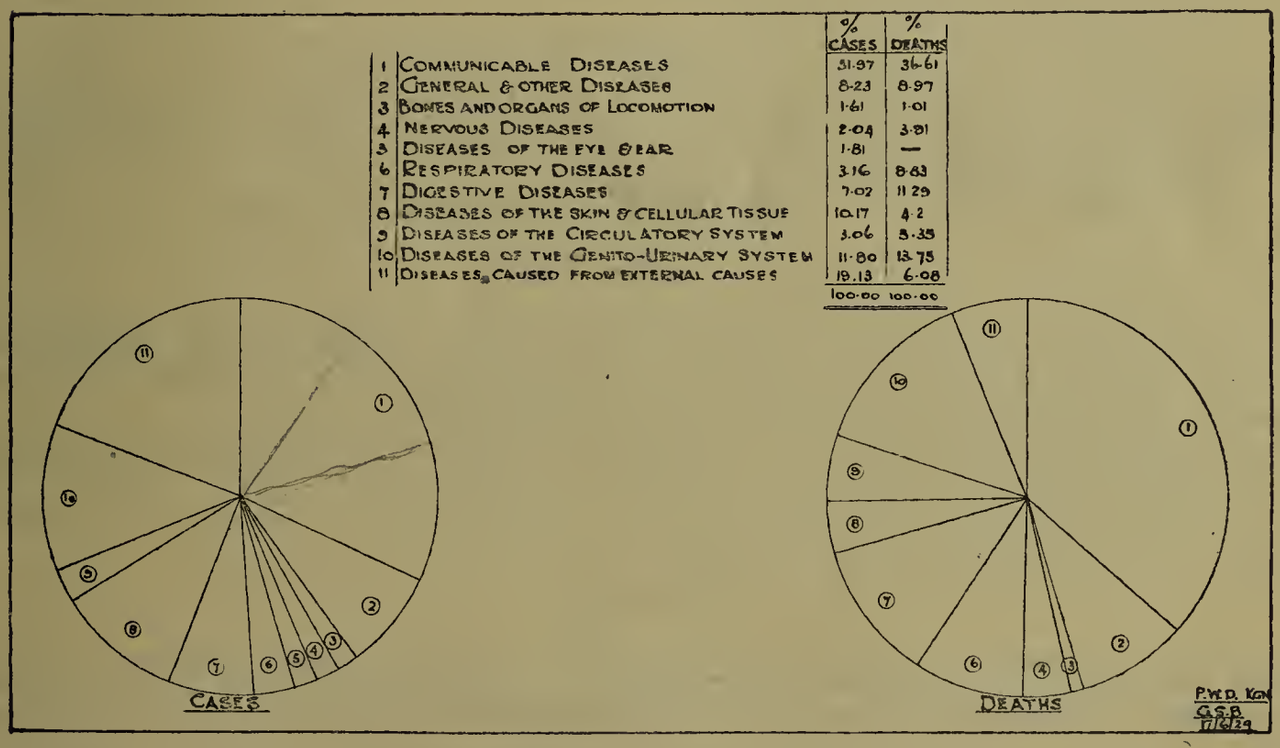
The figures for venereal disease do not show any increase in the total but improved facilities for treatment in the country hospitals are needed.

Yaws.—Large numbers of cases of this disease are treated every year. Treatment is carried on continuously by all District Medical Officers. The disease is far more prevalent in the hilly regions with abundant rainfall. In the dry coastal areas it is almost unknown. Nearly all the cases are typical secondary yaws in children. Bismuth Sodium Tartrate is used for most cases but the arsenical preparations are also issued. Many District Medical Officers report good and rapid results from the Bismuth treatment. This treatment is not so painful as the intramuscular administration of the Salvarsan preparations.

Some District Medical Officers report an appreciable diminution of the number of cases resulting from a thorough and vigorous clearing up of an area but in most districts there appears to be no lessening of the number coming for treatment. Ignorance and a low standard of personal hygiene is responsible for a large number of the cases.

During the year 20,346 cases were treated and cured of their immediate symptoms but recurrences are not uncommon. The late manifestations of yaws are certainly common in this Island, but their differentiation from tertiary syphilis is a difficult matter.

BASIL M. WILSON,
Principal Medical Officer.



District Medical Officers' Reports.

Kingston.

The general health of the district was on the whole good. The general diseases of the community showed nothing abnormal either in incidence or severity.

As regards communicable diseases the year 1928 compares favourably with the preceding year in almost every respect. For instance the mortality of the following diseases during the two years is as follows:—

	1927.	1928.
Pulmonary Tuberculosis ..	166	150
Enteric Fever	142	110
Pneumonia	167	91
Dysentery	29	26
Venereal Diseases	50	49
Malaria	18	27

Malaria shows some increase. This is not surprising for after the rains of August for many weeks there was a perfect plague of mosquitoes which must have caused a considerable spread of malaria especially among young children and the poorer members of the community. Under ordinary normal conditions, very littlema laria prevails in Kingston.

No cases of alastrim were seen. A few cases of hookworm occurred among Constabulary recruits from the country parts.

The first part of the year was marked by dry, genial weather and during that period sickness and mortality were at their lowest. There was a decidedly upward tendency from the commencement of the rains in August.

During the last quarter of the year there was considerable prevalence of influenza, with throat and gastric complications, and accompanied by fairly high temperature. The mortality, however, was not markedly high.

As regards meteorological conditions, the latter part of the year was characterized by marked atmospheric humidity which affected the public health as indicated in the preceding paragraph. The rainfall for the year—36.48 inches in Upper Kingston and 28.89 inches at the Public Works Office—was higher than that of the previous year, but still below the average for Kingston. Nearly half of the rainfall occurred in August, so that the distribution was unsatisfactory.

The mortality rate was 25.67 per 1,000, slightly below that of 1927, but still too high.

On the whole a general comparison with previous years is not unfavourable.

Port Royal.

The general health continues to be good.

On the 7th April a member of the crew of the S.S. Yarmouth, the last tourist ship of the season, was sent to the Quarantine Station suffering with small pox. The usual precautions were taken. The patient made a good recovery and was discharged in May. No cases of alastrim or dysentery occurred during the year and cases of typhoid and malaria were few, the diseases having been contracted outside of this district.

Meteorological conditions of the seasons had no effect on the disease incidence to any marked degree.

The sanitary conditions continue to be satisfactory.

General health of crew of ships arriving for coal here continues to be satisfactory.

Halfway Tree.

During the first half of the year there was a drought more severe than any we have experienced for 20 years or more. During this period there was very little sickness. There was, in consequence of the drought, a shortage of water which was a source of much inconvenience and of some suffering to the poorest classes. It was followed in the latter half of the year by excessive rain.

In the last quarter of the year there was an epidemic of Influenza. The majority of the cases were mild but there were many exceptions of an exceedingly severe type. In the Maxfield Park Home there were 67 cases all severe.

The infant mortality has been less than in previous years and there have been no cases of vomiting sickness. There were two fatal cases of tetanus.

Stony Hill.

The general health of the district for the period under review has been good. There was nothing of note with regard to the incidence of general diseases. Of communicable diseases, chicken pox was prevalent at the beginning of the year. There were by far fewer cases of typhoid than during the preceding year.

There were some cases of dysentery following the long wet spell in the late summer. Influenza was very prevalent towards the end of the year.

There was a marked decline in the number of cases of yaws due to the intensive treatment carried out during the previous year.

The general health on the whole was better than during the preceding year.

Gordon Town.

General Diseases—Almost the same as in previous years. Infectious diseases were not quite so prevalent.

Pulmonary Tuberculosis seems much too prevalent in such a healthy climate. Small over-crowded, ill-ventilated homes and lack of proper food stand in the way in combating the disease.

No cases of malaria and only a few of enteric fever, colitis and round worms were treated. Influenza cases (epidemic) were treated towards the end of the year.

The different seasons did not seem to make any appreciable change in the relative mortality, and with the exception of yaws and epidemic influenza there was no prevalence of sickness in any one season.

There were heavy and continuous rains following a prolonged drought, which brought in its trail numerous pests—flies and mosquitoes—the former being responsible in my opinion for an influx of yaws cases, during the later seasons of the year.

I am of opinion that the health conditions generally of the district have improved over former years.

Morant Bay.

The general health of the district has been good, particularly so during the first half of the year.

Towards the latter part there was an outbreak of influenza, fortunately of a mild type on the whole. Notwithstanding the generally mild character of the disease there were several cases having complication of pneumonia. Malarial fever was more in evidence from September to December.

This coincided with a heavy rainfall just about this time.

There were 16 cases of enteric fever admitted to hospital in 1928, the same number having been admitted in 1927.

In comparing the year 1928 with that of 1927, it is brought out that there were 13 more cases of malaria in hospital in 1928, no increase of enteric fever and perhaps the same number of influenza cases.

Golden Grove.

During the year 1928, there was no epidemic of any infectious disease but in the fall of the year on account of frequent rains there was an increase in the number of cases of malaria. 33 cases of enteric fever were treated during the year as against 13 in the previous year. I am sorry to say tuberculosis appears to be increasing. 24 cases were seen in 1928, while only 13 were seen in 1927.

The prevalence of sickness was greater in the fall of the year. This was due to frequent rains causing an increase of malaria.

Venereal disease was very prevalent during the year and seems to be on the increase.

While the prevalence of sickness during this year was not so great as in some former years yet it was greater than in the previous year.

Hagley Gap.

There was a considerable but not excessive amount of rain about the middle of the year. On the whole the seasons have been propitious to crops and not inimical to health. The general health of the district has been extremely good.

Port Antonio.

Malaria was more prevalent, 188 admissions to hospital as against 96 in 1927. The disease was of the usual type and readily yielded to treatment in cases where the patients were seen early and had not been treating themselves with excessive doses of bilious patent proprietary medicines.

Several patients have been admitted with a history of fever and in a very weakened state as a result of excessive purgation due to taking large doses of such medicines.

The number of cases of typhoid fever was greatly in excess of any previous year. 64 patients came under my observation. A fair number of the cases came from the eastern part of the district where, during dry weather, people depend largely on the public tanks for their water supply. The cases were hardly sufficiently numerous to suggest an infection of the tanks.

Pulmonary Tuberculosis continues to be very much in evidence. I notified 42 cases during the year. This should not happen in view of the fact that people can practically sleep in the open air.

Venereal Diseases remain pretty much the same. 54 cases of primary syphilis were admitted to hospital and a considerable number were seen in private practice. Gonorrhœa and its complications brought 56 persons to the hospital for indoor treatment. The figures mentioned here probably represent about 50% of the persons infected with syphilis and I should not think more than 10% of those infected with Gonorrhœa.

Yaws.—In connection with this disease vigorous efforts were made to lessen the incidence of this scourge; over two thousand persons have been treated. The immediate results are excellent but unfortunately recurrences are frequent.

Buff Bay.

General.—The return of diseases treated, discloses no outstanding prevalence of any of the general systematic diseases other than the comparatively large incidence of the Nephrites.

Communicable Diseases.—Enteric fever: 91 cases were admitted to the hospital with 22 deaths, a high but not unusual death rate having regard to the fact that for the most part, these cases are not seen at their incipience, but when advanced and often complicated.

An epidemic of this condition occurring in the Buff Bay River Valley, was promptly and efficiently dealt with by the Local Health Authorities.

I am pleased in this connection to note the undoubtedly less endemic prevalence of the enteric fevers and this, I think, must be attributed to greatly improved sanitary conditions.

Malarial Fevers.—156 cases of malaria with no deaths and 4 cases of blackwater fever with 2 deaths. This compares very favourably with the records of past years, having especial regard to the unusually heavy rainfall in the latter months of the year.

Yaws.—1,200 cases treated for the year under review, all of which were cured by injection of Bismuth and Sodium Tartrate. In this connection, I would remark that despite the dissatisfaction published in respect to the use of this drug, I have found it quite satisfactory, if injected in large enough doses, such dosage being in excess of the officially authorised doses. I find that in the case of adults, six grains can be well borne without any resulting stomatitis or any outward symptoms, and in the case of children a dose *pro rata* has been found to be necessary and efficacious in advanced stages of the condition.

Tuberculosis.—I have nothing to add to my previous remarks on the incidence other than to express the hope that the recent Tuberculosis Campaign will be extended to the several Medical Districts of the Island at no distant date.

Syphilis.—127 cases with 1 death and Gonorrhœa, 80 cases disclose a still too high prevalence of these venereal conditions.

Pyorrhœa.—It has been forcibly borne in on me in the course of my practice that this condition found, and noted frequently, as intercurrent or concomitant, is in reality the primary or causative factor in many of the conditions which we are called upon to treat, to wit, the Arthrites, Septicæmias, fevers of doubtful nature and hormone unbalances.

This comment is made to justify the plea I now make for a Dental Department in connection with all Public General Hospitals.

Pneumonia.—12 cases with 2 deaths are listed and 4 cases of pleurisy, as also 14 cases of influenza. These respiratory diseases are, I am glad to record, of very small incidence and are not associated with a high mortality.

Obstetric Cases.—The fact that 25 obstetric cases were dealt with in the Institution, emphasises the often stressed need for provision of a well equipped Labour Ward, and an arrangement with the Parochial Board, whereby the Medical Officer will be compensated for this extraneous service.

Surgical Operations.—206 surgical operations were performed in the Institution and of these, 83 were major operations attended with two deaths—a very satisfactory record, I venture to submit. Two or three outstanding cases are deserving of record:—

1. A case of advanced tuberculosis of the knee-joint, in a man aged 29 years was successfully treated by excision of the joint and the result has been a most happy and successful one. This, despite the fact that entirely improvised means had to be used in the post operative stage, for ensuring good alignment and union.

2. A case of Carcinoma of the Pyloric end of the stomach in a man aged 56 years, on which a gastro-enterostomy was done. He lived for six months in freedom from pain and died eventually from secondary invasion of the liver with the failure of portal circulation resulting therefrom.

3. A most formidable mass of fibroid tumours, which on removal weighed 15 lbs., and which had contracted formidable adhesions to the abdominal and pelvic parietes and viscera, was successfully removed from a woman, aged 50.

4. A case of depressed fracture of the skull in a lad of 20 thrown from a horse and brought into hospital with convulsions and semi-comatose, was successfully trephined and was able to leave hospital a week after admission.

5. A case of malignant epulis in a boy of 17 of most formidable size, growing from the lower maxilla, was treated by a partial excision of the lower jaw, with success.

Annotto Bay.

General Diseases.—The general health of the community in the town of Annotto Bay and in the surrounding districts has been a great improvement on the conditions existing in former years. This is a notoriously unhealthy district and the general health of the community would compare badly with parishes such as Manchester and St. Ann, were accurate and exhaustive records obtainable. In the past the want of sufficient knowledge concerning the causation and spread of malaria and other communicable diseases such as typhoid, hookworm, etc., was the chief factor in keeping up and spreading these diseases. Then the influx of large numbers of coolies very materially assisted in the increasing incidence of malaria. Now the cessation of coolie immigration and the education of the community generally in the elements of sanitary science and its application to every day life are materially improving health conditions as regard malaria and hookworm. But venereal diseases have gone up in numbers.

There were 716 cases of diseases treated in the Public General Hospital at Annotto Bay during the year and 251 in the Out-patients' Department making a total of 967 cases treated.

Of the diseases treated 538 came under the head of Communicable Diseases and 429 under the head of General Diseases.

Of the 538 cases of communicable diseases, 208 were due to malaria fevers and 201 to venereal diseases.

There was no unusual prevalence of any sickness during the year and the relative mortality was not affected.

During the latter part of the year the rainfall rose to the level of what was the experience in years gone past. It did not have any obvious effect on the health of the people generally.

Port Maria.

Communicable Diseases.—Mosquito borne—Unlike the previous year when the incidence of malarial fevers was at its lowest, the present period showed an alarming increase especially during the last three months of the year, there being 179 cases admitted to hospital with 7 deaths as against 106 cases with 3 deaths of the previous year. Many of the cases were of the malignant type. The outbreak occurred after the heavy rains in October and was observed all over the district and not confined to the coast towns.

Infectious or Epidemic.—No disease assumed epidemic proportions during the year.

Helminthic.—Ankylostomiasis and ascaris infection are being more often seen now as most of the good work of the Hookworm Commission is being undone.

Other Communicable Diseases.—The number of enteric fever cases was slightly less this year than last, i.e., 28 cases with 13 deaths as against 33 cases with 9 deaths in 1927. Most of these cases occurred in June and July and there was a definite outbreak in the Islington district. Vaccination of contacts was carried out regularly by the neighbouring D.M.O. and myself and special measures were adopted to limit its spread.

Venereal Diseases.—These are still prevalent and rank high in hospital admissions but there does not appear to be any increase. Syphilis—92 cases, and Gonorrhœa—56 cases, were treated in hospital.

Yaws.—This is not so prevalent: 600 cases were cured.

There is not much variation in prevalence of sickness in the different seasons of the year, except with regard to malarial fevers after rainy seasons and enteric fever in the hot months.

The early part of the year and well into the hot months, was characterized by a continuance of the drought which was, however, broken in September and since then rains have been falling in real old fashioned style. The effect of this on the incidence of malaria has already been noted.

The year, from a health point of view, has been a fairly good one. There are, however, three facts worthy of special mention:

1. The reappearance of hookworm cases.
2. The continuance of enteric fevers to which I have already drawn attention in previous reports and which I described as the disturbing factor in our health conditions.
3. The return of malarial fevers especially malignant cases as in the old days.

It is gratifying to report, however, that the appointment of a whole-time Medical Officer of Health and the establishment of a Health Unit for the parish has at last been effected and there is every reason to hope that with regard to (1) and (2) the special measures being undertaken will lead to favourable results. As to (3) the malarial survey recently held, will no doubt be followed by Anti-malarial work, and that the incidence of this disease which leads to more disability than any other, may be reduced.

Highgate.

There was no serious outbreak of infectious disease during the year. Enteric fever was prevalent and occurred throughout the year and in all parts of the district, but did not assume serious proportions. In the areas where it was most prevalent the inoculation of contacts was carried out.

Malarial fevers and influenza also occurred and were especially prevalent during the last three months of the year.

Children were vaccinated and yaws was regularly treated. Following a long period of dry weather heavy and continuous rains fell during the last quarter, at which time mosquitoes were much in evidence. Besides being a great nuisance, they accounted for the increase of the incidence of malaria.

While the dry season lasted the urgent need of water in the towns of Highgate and Richmond was constantly felt by the people and the long promised water supply by pipes was anxiously expected. This hope has not yet been realised in spite of frequent inspections and the preparation of plans and estimates. It is to be hoped that some definite move to provide this water supply will be made during 1929. It is the most urgent sanitary requirement in this district. In the towns some new drains have been made and others extended which helped to improve the sanitary conditions.

Gayle.

The health of the district has been excellent. We have been free from epidemics and the usual infectious diseases have been few and far between. Malaria showed a very marked decrease in incidence. Yaws infection is still at a very high level and it would appear that the curative effects of the Bismuth treatment are not anything as permanent as those of Salvarsan.

The institution of a dental clinic for the schools in this area has filled a long felt want and will improve the standard of health of those concerned considerably.

St. Ann's Bay.

This district has had a remarkably healthy year on the whole. The large majority of General Diseases seen were due to disorders of the alimentary system as must be expected where the largest portion of the diet of the peasant are in the form of root vegetables.

Of the Communicable Diseases, typhoid fever occurred in somewhat greater numbers. Venereal disease has been present to the usual average extent, but I see a growing increase of knowledge on the part of the people and a more ready inclination to have early treatment and to realise what the condition really is and its dangers.

There have been no epidemic diseases to the best of my knowledge. Malarial fever has been almost absent, only an occasional case of Quotidian Malaria, yielding readily to quinine. Enlarged spleens are exceedingly rare.

Ankylostomiasis has been very prevalent but that situation is being very ably met, as far as is practicable by the advent of the Rockefeller Commission.

Yaws is very much on the decrease, occurring only in sporadic cases in villages.

There was to my mind a noticeable increase in cases of enteric fever during the months with the lowest rainfall.

Claremont.

Review of General Health.—This district lies at an elevation in almost all parts, above 2,000 ft., and is noted for its cool, even climate and for its general healthiness. Of diseases borne by flies, enteric fever is the only representative. All cases suspicious of being enteric are notified as such. The total number seen this year (1928) was 12 as compared with 21 last year (1927).

The system of preventive inoculation of contacts is being enforced and certainly has checked the spread amongst the immediate contacts in the home in which the first case occurs. 111 contacts were given protective inoculations with T.A.B. vaccine.

Malaria is practically never incurred in this district. The cases seen during the year reached the district with high temperature, from low-lying districts or developed the symptoms of malaria shortly after arrival. Every two or three years however, one or two cases are seen in the Moneague section which give no history of having left the district.

Helminthic diseases have an incidence of nearly 100% judging from observations in private and general practice.

The only noticeable change is that perhaps during the months of great rainfall the incidence of respiratory diseases rises somewhat. Meteorological conditions have been normal. Heavy rains occurred in November and December.

There is a marked sameness in the kind and incidence of sickness from year to year. This year there was no alastrim, nor any dysentery in an epidemic form and the number of typhoid cases soon fell to 12 as compared to 21 in 1927. This may probably be due to protective inoculation of contacts and also to the intensive construction of latrines under the stimulus of the Hookworm Commission.

Brown's Town.

The general health of the district, on the whole, has been good.

Communicable Diseases have been fewer in most cases. Malaria has been in many cases brought to the district after having been contracted elsewhere, the persons coming home for change and the hope of getting better quicker by being out of the malarial area.

An outbreak of influenza appeared during the last quarter of the year. Typhoid fever frequently recurs from fresh infections in different parts of the district. Round worms are plentiful.

There was more sickness during the quarter ended December 31st. This was due to an outbreak of influenza at that period.

It is pleasing to state, that, so far, there has been no vomiting sickness during the last quarter of the year, as has been the case in several past years. The rains have been uniform in frequency and not very heavy. On the whole the meteorological conditions have been even and beneficial and has not in any way affected the public health unfavourably.

Ulster Spring.

The general health of the district has been, I think, good.

General Diseases.—Of these rheumatism, rheumatoid arthritis (particularly in the colder months), digestive disorders and cardiac neuroses have been the ones most frequently met with, pyorrhœa alveolaris being the underlying cause in a good many cases.

Communicable Diseases.—Malaria is rare but a few cases have been met with chiefly among persons who had recently resided in a malarial part of the Island.

Typhoid fever is also rare. Only two cases came under my observation for the period.

Syphilis in various forms has been prevalent also gonorrhœa with its complications, notably cystitis.

Epidemic.—A wave of influenza of moderate severity passed over the district during the months of September and October, when, quite a number of persons was stricken with the malady and, from which a few elderly persons died.

Yaws was very prevalent when I assumed charge of the district, particularly in the Troy area, but it has been, and is still, receiving due attention.

Duncans.

Taking the general health of the community as a whole, I am under the impression that there has been great improvement, due allowance being made for the difficulty of maintaining good health generally under poor economic conditions which exist in this district and elsewhere in the parish of Trelawny.

Malarial infection with its various manifestations, discloses itself as the causes of ill-health in many of the cases presenting themselves. Infectious diseases are represented mainly by gonorrhœa and yaws. There does not appear to be alarming indications of syphilitic infection and its sequelæ in the district.

Epidemic forms of disease such as typhoid have been almost entirely absent during the period under review.

The only disease to be mentioned in this connection is yaws. It must be added, however, that over 300 cases have been treated for the period with very few recurrences. I have also to state that vomiting sickness, so prevalent in former years, has been almost entirely absent during the year. Typhoid fever has been practically absent also and no true cases of dysentery have been noted by me.

I am of opinion that the health of the district has improved. It may be reported as fairly satisfactory, having due regard to the poor housing of the people and their low earning power which precludes their obtaining often the proper necessities for good nutrition for themselves and their dependants.

This comparative improvement has been the result of affording the community (in part), a good water supply and the educational and other work done by the Trelawny Local Board of Health and prominent members of such community, in matters relating to the betterment of public health conditions.

Montego Bay.

Although not marked by any special disease, it has been a year of incessant work and the hospital even with a smaller number of beds, handled more cases than previously. As usual during the last three months of the year acute cases were more prevalent with a larger death rate. I can only account for this by the change into cooler weather.

Cases of acute nephritis have been much more prevalent than in former years and here again I have been unable to trace the cause.

Acute cerebro-spinal meningitis came on us with a rush and in all there were six cases with three deaths in a very short time. In my opinion the meningo-coccus was the cause as all cases which got a sufficient number of serum injections got better while the others died. Special precautions were taken for a few weeks and an isolation hospital opened but it came too late and only got three cases in convalescence, the hospital bearing the brunt of the short epidemic.

Malaria has been about the average of 102 cases with six deaths treated in hospital, against 140, 117, and 93 in 1925, 1926 and 1927 respectively. The sub-tertian type has been quite prevalent and a very large number of injections of Q.D.H. had to be given. With the prevalence of this type of fever, as one would expect, there has been an increase in the number of cases of black-water fever, the treatment of which has now become almost stereotyped in the hospital, i.e., intravenous injections of a 1% Soda Bicarb. with Sternbergs mixture by mouth.

Typhoid Fever.—There has been a slight increase in numbers:

	Notified.	Cases treated in Hospital.	Deaths.
1921–25 ..	67.6 (average)	..	..
26 ..	64	27	..
27 ..	50	35	10
28 ...	65	48	11

There has been a deplorable lack of interest in prophylactic inoculation against this disease and I think it is time the Central Authorities try to make it compulsory as it certainly accounts for more deaths than small-pox does to-day.

Tuberculosis.—As pointed out in many previous reports this disease is on the increase and 99% go to their graves in a few months. The people know it as fatal and very few cases come under treatment as soon as they know the diagnosis.

Ankylostomiasis.—My remarks of last year remain the same and if the Sunderland-Lottery area was attacked the parish would be practically free of the disease.

Pneumonia.—(1921–25) 25, (1926) 27, (1927) 22, (1928) 13. These are the numbers of cases treated in hospital but by no means the numbers affected.

The following is a list of infectious diseases notified with a comparison of the previous year.

	1921–25.	1926.	1927.	1928.
	Average.			
Typhoid	67.7	64	50	65
Alastrim	110.2	108	27	0
Tuberculosis	35.2	63	44	55
Diphtheria	5.5	1	1	1
Varicella	2.6	3	2	12
Pneumonia	25	17	22	13
Cerebro-spinal Meningitis ..	0	2	0	6

During the year the district was again drought stricken, especially the town.

Adelphi.

The health conditions, generally, during the year 1928 was to a great extent satisfactory, there being no outbreak of any form of infectious disease, neither was there any period of that year marked by any large increase of the ever existing ones such as typhoid, etc. There is, however, one exception, when in the month of January there appeared an unusual number of cases of typhoid fever particularly in Montego Bay, a few cases of which came from the Adelphi District.

Of the communicable diseases, much has been said about tuberculosis, I need not therefore labour the question but entertain the hope that the efforts now being put forth by the Tuberculosis Organization will receive much support not only from the Government, but from individuals so that this dread scourge might be handled in as efficient a manner as will at least minimise its incidence, which at present, is enormously high.

With respect to the mosquitoes these also are always more or less with us and of which I also entertain the hope that the Survey now being carried out and the efforts later to control will prove not only successful but beneficial if at all possible to rid the country of these terrible pests.

Dysentery.—Very few cases of dysentery came within my notice in the district during the year but quite a few cases of diarrhœa.

Vomiting Sickness.—Negligible.

Helminthic Diseases.—The round worm appeared to have been most prevalent. The hookworm is still a matter of great concern and is plentiful in the Montego Valley. The lack of necessary and efficiently constructed latrines and the use of the fields, river-beds and other places in the bush for toilet in these densely agricultural centres is, I fear, primarily responsible. The Hookworm Commission is shortly to operate in this parish.

Weather conditions have been somewhat even during the year, the usual October rains were not by any means as steady and protracted as in previous years, and it is in these particular seasons and immediately after that certain diseases abound, chiefly typhoid and dysentery. It can therefore be said that weather conditions have brought about no change in the incidence of diseases of any form.

Lambs River.

The general health of the district has been remarkably good and compares favourably with recent annual periods.

Communicable Diseases.—There was a marked diminution in comparison with previous years.

Malaria accounted for less sickness.

Alastrim was absent.

There was a noticeable decrease in the incidence and mortality of enteric fever, dysentery and pneumonia.

Influenza of a mild type was prevalent during the last two quarters.

Helminthic.—Ankylostomiasis, the only helminthic disease of importance in this district, was prevalent.

Venereal diseases were prevalent.

Yaws still shows a marked prevalence.

There were fewer cases of pulmonary tuberculosis.

No disease assumed epidemic proportions.

With the exception of malaria from September to November, meteorological conditions had no adverse effect on the public health.

Cave Valley.

The general health of the district has been very good during the year. 13 cases of typhoid fever occurred with 1 death. They were all sporadic cases—occurred throughout the year and throughout the district; 3 cases of chicken pox were notified; 12 cases of pulmonary tuberculosis were reported—They were all well advanced cases—9 have since died; 4 cases of bacillary dysentery were reported—they were all of a very mild type.

Mosquito or insect borne diseases are never prevalent in this District. There has been no epidemic of any disease during the year.

During the fall of the year several cases of influenza of a mild form occurred.

There has been no marked prevalence of any disease. The general character of the diseases has been mild, with the exception of consumption which is generally met with when well advanced and the mortality of which is very high, practically 100%.

There was a very severe drought during the year. The general health of the district was not affected thereby but the economic conditions have suffered. Compared with former years the year has been a very healthy one.

Lucea.

Heart and kidney diseases have been fairly common. Some cases of bronchitis and pneumonia were seen.

Two cases of phthisis were seen, also several cases of enteric fever. One case of meningitis was seen. Gonorrhoea and buboes and syphilis are prevalent in this district. Worms are common among both children and adults. Several cases of malaria were seen.

The seasons have not affected the mortality rate.

Green Island.

General diseases such as bronchitis and pneumonia seen during the rainy seasons. The climate here is damp and unhealthy and there is always a nasty odour arising from the swamps at all times of the year. Kidney and heart diseases are also seen. Gonorrhœa and buboes are common among both sexes.

Ulcers and yaws are prevalent.

Round worms are common among both children and adults.

Malaria fever is seen all the year round, as the Green Island District is low-lying and swampy. There have been less cases of malaria fever this year as compared with last year. We always get an increase of cases of malaria after the heavy rains. There has been an increase in the mortality rate.

This year has been a healthier one than last year in my opinion. There have been fewer cases of malaria fever and malarial cachexia.

Sav.-la-Mar.

There has been a greater variety of diseases treated in the hospital during the past year than in almost any other year of recent times. They comprise malaria, enteric fever, influenza, articular rheumatism, syphilis, tuberculosis, etc. There was one case which I considered to be sand fly fever but I am not positive about it.

Several cases of hookworm were treated satisfactorily and one or two cases of ascarides. Between March and June there were more cases of bronchitis, malaria and enteric under treatment than at any other time of the year. This is usually an unhealthy part of the year and the unhealthiness is possibly due to wet and sudden variation in temperature. The rains are often heavy at this time of the year and the temperature after heavy rain often falls very rapidly.

I am unable to give exact figures of the mortality rate at the various seasons of the year but I am satisfied that, though there have been some serious cases of malaria, the past year has not been an unhealthy one on the whole.

Grange Hill.

General Diseases.—Malaria always, rheumatism, neuritis, syphilis, diseases of the kidneys, gonorrhœa, skin affections (mostly any variety of Tinea), occasionally pneumonia and pleurisy and enteric fever.

Communicable Diseases: Mosquito-borne.—The disease most treated is and always has been malaria. Of other diseases enteric fever is the one disease which assumes what is not strictly epidemic form. It is more pandemic, not very many cases occurring in a twelvemonth.

Helminthic.—Ankylostomiasis is not as prevalent as heretofore. I see it mostly among the pauper class. Round worms are often treated.

Prevalence of Sickness.—The year has been what one may term a fairly healthy one, especially as compared with last year which was most unhealthy. The mortality rate is less and the health conditions generally better.

Except for a few cases of typhoid there have been no cases of infective disease. I have seen a few cases of bacillary dysentery, due in all cases to lack of good water supply.

A mild type of Influenza persisted from October and is still existent, accentuated in no small degree by the dusty condition of the streets, consequent on the dry season.

Gonorrhœa and syphilis not as prevalent as formerly.

Yaws very much on the down grade, and the people get all the attention they need in this direction.

Rainfall much below the average.

Comparison with other years is favourable.

Malvern.

The general health of the Santa Cruz District has been good during the year ended December 31st, 1928. Towards the close of the year a few cases of typhoid fever occurred, but there has been no epidemic of this nor of other diseases. There does not occur in this district except in some small areas, any insect-borne diseases and in these areas, mainly after the rainy season, malarial fever prevails. This has not been of a virulent type and has been less than usual.

Helminthic diseases prevail in the form of ascarides and oxyurides, but ankylostomiasis does not occur in massive infections. Cases are mostly found at the Santa Cruz Almshouse coming from the other districts.

The year has been markedly healthy and mortality appears to have been moderate. I consider this due to the year having been exceptionally dry.

Black River.

General Diseases.—There has been no appreciable difference between 1928 and the previous year.

Communicable Diseases: Mosquito or Insect Borne.—Malaria is the only one encountered here. It is frequently met with during the whole year but more so during the autumn and winter when it is more severe.

Infectious or Epidemic.—Typhoid, tuberculosis, influenza and pneumonia were all encountered. The typhoid cases were generally more severe than those of the previous four years. The cases were widely scattered and there was no common source of infection for any number. Influenza was severe and widespread.

Helminthic.—Ankylostomiasis is prevalent in the districts of Slipe, Cotterboo, Ipswich and Y. S.

Prevalence of Sickness.—Malaria and influenza were prevalent during the autumn and winter. The mortality was not materially changed but the morbidity was greatly increased when compared with 1927.

There was a severe drought covering the first seven months of the year and, as is usual under these conditions when the rains set in, the Anopheles mosquito multiplied tremendously, with a resulting increase in the number and severity of malaria cases.

A few blackwater fever cases were encountered. Pulmonary tuberculosis is increasing and it is very encouraging that a new Anti-Tuberculosis League has begun activities in the Island.

Venereal diseases although still very prevalent are perhaps not so neglected as formerly owing to the far greater willingness on the part of the patients to get early treatment.

Mandeville.

During the period from 1st January to 31st December, 1928, the general health of the Mandeville District was quite up to the average and compared favourably with that of former years.

A highly contagious disease, so-called influenza, was prevalent from October to the end of the year. At first it was of a mild type, more like an ordinary Coryza, the patient usually recovered within a week. Later the symptoms became more severe, more prostration, higher fever and bronchial affections—this was in the latter part of December. It is surprising how many people refuse to recognize infection and contagion as a cause of the spread of disease, and still use the term "cold" which is so peculiarly unfortunate in this affection.

Mosquito or Insect-borne Diseases.—Very rare in this district. Helminthic: prevalent. A full and reliable report will no doubt be sent in by the Hookworm Commission. Splendid work is now being done by Dr. Escoffery and his co-workers at the Hookworm Centre in Mandeville.

A few cases of enteric fever occurred in this district—three at Royal Flat and two in the Fairfield District.

Mandeville District is almost free of yaws. A few cases only on the border at Kendal attended during the year.

The only disease that might be termed epidemic, so-called "influenza," was worse in the cold season, due, I think, to more faulty ventilation at that time and no way dependent on seasonal and meteorological conditions.

Porus.

The general health of the community has not been as well maintained as in the previous twelve months. This is due to the prevalence of malarial fever throughout the latter part of the year, notably since the heavy rains which fell in August and subsequent months.

Mosquitoes are prevalent especially in the town of Porus and adjacent districts.

There were many cases of bowel complaints, and the much dreaded epidemic of infantile disease, accompanied by vomiting, collapse and death, is to be recorded. Many children who awoke in the early morning apparently well, fell ill within a short time after, and were reported dead before sunset of the same day.

No post mortem examinations were performed in the Manchester Section of this Medical District. One child on whose body I performed an autopsy showed the presence of inflammatory changes along the entire alimentary canal with splenic and hapatic congestion.

Yaws shows no appreciable decrease. The drugs used are, in my experience very reliable, and very few cases do recur.

Syphilis is, in my opinion on the decrease. Many cases of late tertiary forms are met with in some unsuspected quarters. There must be recorded quite a good number of congenital cases.

Gonorrhœa not much met with.

Newport.

Communicable Diseases.—There have been several epidemics of Influenza with the usual complications and sequelae. Malaria has prevailed to some extent in the lower sections of this district, but the cases have been, usually, quite mild. A few cases of typhoid have occurred and tuberculosis cases have been very few.

Hookworm.—There are many cases of this disease in this district.

Yaws.—This disease is at present not very prevalent.

There has been a prevalence and recurrence of influenza here during the past year and among these cases there have been several cases of pneumonia, nephritis, cardiac disease, etc., etc., and I think some forms of insanity have been traceable to this cause at times.

There are many cases of the venereal diseases here and sequelae, etc.

The past year compares very favourably with the immediately preceding years and the general health has, I think, been much the same with the exception that a few years ago there were some cases of Kaffir Pox and this year there have been none at all—the public being well protected by vaccination.

Lionel Town.

There was a very low rainfall except in the months of August and September.

There were 24 cases of typhoid fever seen, 25 cases of tuberculosis, 34 cases of dysentery and 5 cases of alastrim.

Dysentery was fairly prevalent throughout the year, especially in the earlier months. Towards the end of the year there was a mild epidemic of influenza—a very high percentage of the community being infected. As a result of the drought, malaria fever was not as prevalent as in past years. Pulmonary tuberculosis is far too frequently met with. It is difficult to control, and this difficulty can only be overcome by having an institution for these cases.

The poverty among the lower classes is very marked—practically their only source of income is from the sugar estates. As a result of the lack of rain they cannot grow their own provisions.

Spanish Town.

The general health of the district during the year was fair. There were more cases of fever—typhoid and malaria—seen, than the year before.

No infectious diseases occurred. During November and December there was an unusual incidence in malarial cases associated with mild Bronchitis.

The first eight months of the year were particularly dry. Rains started in August and continued intermittently to the end of November.

There was more typhoid fever seen than in 1927. Generally there was more sickness in the district than in the previous year.

Old Harbour.

Communicable Diseases.—As usual towards and during the last quarter of the year malaria fever, chiefly of the quotidian type, and some cases of tertian, made its appearance. Both types have been more prevalent than in former years—say, the past five or six years.

Infectious Diseases.—I have had to notify two cases of alastrim and five of pulmonary tuberculosis, of which, two cases of the latter have died to my knowledge.

Influenza of a gastro-intestinal type made its appearance and during the latter half of the year was very prevalent; fortunately the mortality was practically nil.

Helminthic Diseases.—None have come to my notice. The Hookworm Commission seems to have eradicated them.

Prevalence of Sickness and Relative Mortality.—The last quarter—October to December—as in former years shows a greater amount of sickness with perhaps a somewhat increased relative mortality. The cause is due to greater wet, damp and cold.

Influenza and malaria were prevalent during the last half of the year. At times it was difficult to distinguish the one from the other.

Influenza has been somewhat more prevalent than usual, and how it has originated I am unable to say. Whilst much discomfort was caused, no deaths resulted therefrom.

Malaria was accountable for two deaths during the year.

Meteorological Conditions.—The wet season during the last quarter of the year is responsible for much of the sickness, also the lowered temperature during that time of the year, and where as a rule no provision is made in the matter of clothing, will account for cases of bronchitis and pneumonia.

Comparison with former years.—On the whole the year 1928 compares favourably with former years.

Linstead.

The year was marked chiefly by an outbreak of typhoid fever in the Jericho and Orangefield districts. The season had been dry and the only source of a water supply was the Jericho river which, in its sluggish condition with unkempt banks of rank weeds, was strongly suspected as the cause of the outbreak. Altogether 75 cases came under treatment with 8 deaths. Not a high death rate when the homes and condition of some, and the removals by motor cars of others to hospital, are considered.

Towards the end of the year, malarial fever and influenza were prevalent. The influenza in many cases was complicated with pneumonia.

There was a prevalence of urinary disorders such as stricture, cystitis, pyelitis, right through the year; these no doubt being due to improperly treated or neglected cases of gonorrhœa.

As compared with the former year there was much more sickness.

Balaclava.

The general health conditions of this district during the past year have been normal.

Communicable Diseases.—Have chiefly been seen in such cases as infantile affections, viz., mumps, measles and whooping cough, and that not in large numbers.

Mosquito or Insect-borne Diseases.—Have not been above the average. Malaria is the chief one and it has not been any more in evidence than it usually is, and that during and just after the rainy seasons.

Infectious Diseases.—Have been rarely seen and only such ones as chicken pox or measles.

Contagious Diseases.—Have been practically absent. Bowel complaints have been rarely met with. No cases of alastrim have occurred.

Helminthic Diseases.—Have been as prevalent as usual.

Meteorological conditions may be said to play a minor part in health conditions in this district, and that only with regard to the seasonal outbreaks of malaria fevers in the spring and fall months.

A general comparison of health conditions with former years can certainly be said to be good.

Croft's Hill.

This is a healthy district and the standard has been fairly well kept up.

General Diseases.—There has been little or no change in the common chronic type met with from year to year.

Communicable Diseases.—Of mosquito or insect-borne diseases, malaria is occasionally met with, and there has been a very severe case but fortunately not fatal.

Infectious or Epidemic Diseases.—There have been a few sporadic cases of measles among children, but no cases of whooping cough or chicken pox. There have been many cases of typhoid fever in the latter part of the year resulting in a few deaths. Several cases of tuberculosis have been seen with fatal results in some cases. There has been a mild epidemic of conjunctivitis among school children in the Croft's Hill section of the district. Influenza has also been general over the whole district but the type has been very mild.

Helminthic Diseases—The common types of intestinal worms are almost normal to the children of the district and are frequently found in adults. Hookworm infection is very common both in children and adults. The rarer forms of worms have not been seen.

Yaws still continue to be prevalent and will continue, in spite of treatment, till the people change their slack and filthy habits. Syphilis and gonorrhœa are ever with us with their banal effects. It is noteworthy that for the second year in succession I have neither seen or heard of any fatal cases of vomiting sickness in the district.

Generally the year under review has been as healthy as the preceding years.

Frankfield.

No cases of alastrim have come under my notice during the past twelve months and but two cases of enteric fever have occurred in the district this year. Very few cases of malaria fever have applied for treatment, or been present in the district during the past year.

During the last half of the year, a number of influenza cases have been treated, but in almost all cases were of a mild type. An increased number of yaws cases have been coming forward for treatment, voluntarily. Seeing the results of those treated, many chronic cases from far away districts have been encouraged to present themselves for treatment and were cured.

The increase in yaws is also due to the insanitary conditions at the homes of these patients and also to the belief that yaws patients must not be treated until the yaws eruption is well "ripe" or fully developed.

The general health of the district compares favourably with that of previous years and on the whole is much improved.

Little London.

The health of the people has been on the whole very good during the year 1928. There has been no epidemic of any kind. A few mild cases of dysentery occurred early in the fall. Malaria as usual is the chief complaint from which the people suffer but, there has been a marked absence of cases of a severe type. I have had to treat nine infants during the year for malarial fever but, with one or two exceptions, they have been mild cases. High as the death rate among infants is, it is to be considered at that, that it is not higher, considering the neglect from which they suffer. Among the labouring classes, these infants are usually left to the tender mercies of some old grandmother while the mother goes to work, with the result that the child gets very little food and, if attacked with fever is neglected and not until the case gets pretty bad, is medical aid sought.

The meteorological conditions have been quite abnormal. The average rainfall here for years past has been 70 inches. During 1928 it was 39.37—a little more than half the normal average. This has caused a good deal of discomfort both for human beings and animals. I cannot say, however, that it has had much effect on the health generally.

Yaws has been well kept in check. There are still a few cases but chiefly of the "crab yaws" variety and "yaws pains."

Syphilis is about the same as usual.

On the whole, therefore, I consider that the year has been an exceptionally healthy one.

III.—HOSPITALS AND DISPENSARIES.

The condition of many of the public hospitals a few years ago was far from satisfactory but at that time the financial state of the Colony did not admit of any improvements.

The administration has taken full advantage of the money now available to carry out some long overdue work. During the year the new St. Ann's Bay Hospital was opened. The old hospital was too small and the site was a bad one. The new hospital is on an admirable site about three-quarters of a mile from the centre of the town. The buildings are suitably planned for the tropics. There is a Nurses' Home, of which many of the older hospitals are still in need. The building of the new hospital at Montego Bay was continued during the year. This hospital is an entire re-building on the site of the old one.

Further improvements were carried out and additional wards were built at the Asylum.

At the Kingston Hospital, the Nurses' Home was commenced and a portion completed and occupied.

New Operation Theatres were built at two of the country hospitals and many minor improvements and additions were carried out.

The following is a list of the Public General Hospitals of the Colony:—

Hospital.	Beds.
Kingston	340
Morant Bay	30
Hordley	30
Port Antonio	55
Buff Bay	50
Annotto Bay	60
Port Maria	65
St. Ann's Bay	40
Cave Valley	12
Falmouth	25
Ulster Spring	6
St. James	70
Lucea	20
Sav.-la-Mar	60
Black River	41
Mandeville	35
Chapelton	33
Lionel Town	50
Spanish Town	70
Linstead	35

A return of the Diseases treated at Kingston Hospital is shown on page 52

A return of the Diseases, Deaths and Out-patients at all other Public General Hospitals is given on page 36.

The Jubilee Maternity Hospital, the Lunatic Asylum, the Lepers Home and the Prison Hospitals are dealt with in Part VI. of this Report.

Basil M. Wilson,
Principal Medical Officer.

Parish.	Health Officers.		Sanitary Inspectors.				Others.
			C.S.I.	S.I.		Hookworm.	
	A	B		A	B		
Kingston	1	..	1 (1)	14 (6)	..	..	3
St. Andrew ..	1	..	1 (1)	6 (1)	..	..	7
St. Thomas ..	..	1	..	..	7	5 (3)	
Portland ..	..	2	1 (1)	..	3 (1)	..	..
St. Mary	1	..	1 (1)	5 (1)	..	..	..
St. Ann ..	..	4	..	2 (1)	7	3	
Trelawny ..	..	4	..	1 (1)	14 (1)	..	4
St. James ..	..	1	..	3 (1)	3	..	2
Hanover ..	..	1	1 (1)	..	3	..	..
Westmoreland ..	..	2	..	1	5	..	8
St. Elizabeth ..	..	2	..	1	2	..	1
Manchester ..	1	..	1 (1)	2	..	..	9
Clarendon ..	1	..	1 (1)	6	..	..	5
St. Catherine ..	..	3	(vacant)	9 (1)	..	..	2
Hookworm Unit 1 ..	1	..	..	..	..	14 (3)	..
Hookworm Unit 2 ..	1	..	..	..	..	14 (3)	
Port Royal ..	..	1	..	..	1	..	..
	7	21	7	50	45	36	41

Note.—The figures in brackets show the number of persons who hold a Certificate from the Sanitary Inspectors School or from the Royal Sanitary Institute.

A. Full time officers.

B. Part time officers.

Vaccination Fees	2,311	16	1
Infectious Disease Control ..	686	6	4
Child Saving League	199	16	0
	£17,842	3	1

In the previous reports no mention has been made of the amount spent by the Rockefeller Foundation in inaugurating newer health administrative methods and in the various Campaigns and Surveys that it has carried out.

Their Annual Report gives the following figures.
July 1913—

Dec. 31, 1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
£	£	£	£	£	£	£	£	£
6,372	3,389	4,648	4,256	5,548	7,211	5,467	3,973	3,285

(c) *Legal.*—The following Laws affecting Public Health were enacted in 1928:—
No. 2. Public Utilities Protection Law.
No. 11. Dangerous Drugs (Amendment) Law.
No. 19. Kingston and St. Andrew Building Law.
No. 23. Dangerous Drugs (Amendment) Law.
No. 25. Grants and Loans for Public Water Supplies.
No. 27. Sale of Drugs and Poisons (Amendment) Law.

The following is a list of all notices in the Jamaica Gazette affecting Public Health.

45. Limits of Sav.-la-Mar for Water Supply.
56. Prohibits keeping pigs in Highgate.
69. Port Antonio, Limits for night soil removal.
87. Spanish Town, Slaughter House.
118. New Market, Market Rules.
197. Montego Bay, Limits.
306. Building in Montego Bay.
393. Morant Bay, Limits for water supply.
428. Chovy Spring, Hope Bay, a Public Water Supply.
556. Duckenfield, Market Limits.
Golden Grove, Market Limits.
589. Endeavour Spring, St. James, Public Water Supply.
Chatsworth Spring, St. James, Public Water Supply.
627. Port Antonio, Slaughter House.
689. Morant Bay, Shop Assistants Hours.
731. Dornoch Water Supply, Limits.
761. Falmouth Slaughter House.

Model Regulations under the Public Health Law were issued by the Central Board of Health during the year on the following subjects:—

1. Additional Bye-Laws under Sanitary Conveniences (4) re use of latrines as storeroom for ground provisions, etc.
2. Exposing of Candies, etc., for sale.
3. Hotels and Lodging Houses.
4. Soap Boilers, etc.
5. Sale of Milk, etc.
6. Bake Houses.
7. Keeping of Animals.
8. Anti-Mosquito Regulations.
9. Sleeping in Stores and Shops.
10. Bushing of premises.
11. Provision of proper drainage.
12. Overcrowding.
13. Storage of food and empty packing cases, etc.
14. Hawking and Street Selling.
15. Markets.
16. Destruction of Vermin.
17. Water.
18. Slaughter Houses and removal of carcasses.
19. Butchers.

These model regulations have been considered by all Local Boards of Health and other interested bodies.

The Central Board of Health have issued a final model for alteration and adoption by the Local Boards of Health and these will replace the former set of regulations.

(d) *Special Enquiries and Reports*—

S.S.M.O.—1. Water Supply at Port Antonio.
2. Water Supply at Morant Bay.
3. Yellow Fever case at Chapelton. (This was a case of Phosphorus poisoning.)
4. Ice Factory, Kingston.
5. Poor House at Spanish Town.
6. Poor House at May Pen.
7. Poor House at Mandeville.
8. Night soil disposal at Port Antonio.
9. St. Mary Water Supplies.
10. Typhoid epidemic in St. Catherine.
11. Typhoid epidemic in St. Elizabeth.
12. Night soil disposal, Newcastle.
13. Slaughter House, Spanish Town.
14. Infectious Diseases—Deaths registered from.
15. Cerebro-spinal Meningitis at Montego Bay.
16. Sanitation Unit, St. Thomas.
17. Maxfield Park.

Routine inspections of each parish with more detailed inspections of St. Elizabeth, St. Catherine, Clarendon and Hanover were carried out during the year. The S.S.M.O. had control of the Malarial Survey.

2. Vital Statistics.

Full details will be found in the Annual Report of the Registrar General who has furnished the short table included in this section.

The lowest death rate and the lowest infantile mortality figure ever recorded are noteworthy features of this table. I think that there is no doubt that the death rate is slowly but surely falling which is a sign of improved health control that must please those interested in the health progress of the Colony.

Parish.	Estimated Population on 31st December, 1928.	Birth Rate per 1,000 of Population 1928.	Death Rate per 1,000 of Population 1928.	Illegitimate Rate per 100 Births 1928.	Infantile Mortality. Death Rate per 100 under 1 year 1928.	Infantile Mortality. Births under 5 years 1928.
Kingston ..	68,476	38.88	25.48	68.07	16.56	22.12
Port Royal ..	1,045	12.42	11.47	84.61	3.76	46.15
St. Andrew ..	57,404	33.96	26.71	61.93	18.67	26.27
St. Thomas ..	46,211	37.07	22.33	79.85	16.97	23.95
Portland ..	54,412	35.74	19.48	72.30	13.81	19.77
St. Mary ..	79,778	34.31	18.26	76.50	13.80	19.77
St. Ann ..	81,826	34.90	16.28	68.84	14.10	20.78
Trelawny ..	38,678	37.37	20.68	75.05	18.88	26.82
St. James ..	46,941	37.18	22.95	77.72	21.12	28.38
Hanover ..	43,170	36.34	20.24	76.37	18.10	28.56
Westmoreland ..	77,160	33.51	19.36	67.58	16.07	25.75
St. Elizabeth ..	90,737	38.49	18.68	72.33	16.08	21.94
Manchester ..	72,925	36.84	16.84	66.12	12.51	17.48
Clarendon ..	94,292	39.17	18.13	70.15	13.29	21.34
St. Catherine	106,738	35.42	20.11	77.90	15.22	23.10
	959,793					
Add excess arrivals over departures from Census Day, 5th April, 1921 to 31st December, 1928 ..	14,949					
Whole Island ..	974,742	35.83	19.73	71.46	15.69	22.74

In connection with the recording of cause of death an investigation was made by the S.S.M.O. of all deaths recorded in the first six months and he found that a very great improvement is necessary before any conclusion can be formed from the present records. The high percentage of deaths recorded without a medical certificate renders it highly desirable that all deaths should be placed under the supervision of full time Health Officers who will be able to make further investigations without delay. This has been arranged for in St. Mary Health Unit. To give one outstanding example:—Many deaths in infants are recorded from consumption which apparently means wasting from probably syphilitic disease and should not come under phthisis.

In the course of the above enquiry it was found 100 cases of typhoid, 22 cases of dysentery and 161 cases of pulmonary tuberculosis had been registered under medical certificates, but had not been notified to the Central Board of Health.

Similarly there were 18 cases of typhoid, 52 of dysentery and 610 of phthisis registered as such without a medical certificate.

3. Communicable Disease.

A. *General*—

An improvement in notification was noticed as a result of a circular letter to all practitioners early in the year and a further circular letter to all practitioners who had certified deaths from notifiable disease but had failed to notify the disease.

Typhoid fever shows an increase of 63 notifications; pulmonary tuberculosis an increase of 136; and alastrim a decrease of 163.

Influenza of a more severe type than usual was prevalent throughout the year and there is reason to believe that in a few cases it simulated cerebro-spinal meningitis and appendicitis.

A card index system was instituted at the beginning of the year and by means of punching holes along the edge of the card fuller details have been recorded.

It is found also that the abstracting of data from these records has been much simplified. A specimen of the card follows:—

NAME AGE SEX

ADDRESS

DISEASE

DATE OF ONSET.....DIAGNOSIS.....NOTIFICATION..... .....

REPORTED BY

DATE OF DEATH

REMARKS:

0–	5–	10–	15–	20–	25–	35–	45–	55–	65–	75–	N.S.	Dead	Male.

PARISH. 1 2 3 4 5

KEY

A. Disease.

1 Small Pox	11 Poliomyelitis
2 Plague	12 Phthisis
3 Cholera	13 Enc. Leth.
4 Diphtheria	14 Y. F.
5 Dysentery	15 Typhus
6 Erysipelas	23 Typhoid
7 Scarlet	24 Para
8 Leprosy	25 Puerperal
9 Ch. Pox	26 Malta
10 C.S.M.	

B. Parish.

1 Kingston	23 Westmoreland
2 St. Andrew	24 St. Elizabeth
3 St. Thomas	25 Manchester
4 Portland	34 Clarendon
5 St. Mary	35 St. Catherine
12 St. Ann	45 Port Royal
13 Trelawny	
14 St. James	
15 Hanover	

C. Month.

1 Jan.	13 July
2 Feb.	14 Aug.
3 Mar.	15 Sept.
4 Apr.	23 Oct.
5 May	24 Nov.
12 June	25 Dec.

MONTH. 2 3 4 5

ERROR

Notifiable Infectious Disease.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

A—Table showing the age—sex. Death Rates for each Parish for 1928.

	Kingston.	St. Andrew.	St. Thomas.	Portland.	St. Mary.	St. Ann.	Trelawny.	St. James.	Hanover.	Westmore-land.	St. Elizabeth.	Manchester.	Clarendon	St. Catherine.	Colony.
									Male.						
0 ..	105	84	75	60	48	49	76	80	84	77	65	46	60	68	64
5 ..	8	2	4	1	3	1	1	3	3	4	4	2	3	4	3
10 ..	3	1	6	2	2	1	1	2	1	2	2	1	3	5	2
15 ..	9	3	5	5	6	2	3	5	2	3	2	3	3	4	3
20 ..	12	12	11	11	12	10	6	10	6	9	6	7	6	8	9
25 ..	16	17	18	13	12	9	5	12	9	8	12	12	7	12	11
35 ..	37	28	17	15	15	8	10	14	7	12	9	11	8	14	14
45 ..	42	31	21	23	18	20	21	20	16	15	9	12	18	22	19
55 ..	79	57	33	49	34	26	34	43	29	22	27	29	22	37	35
65 ..	132	116	68	62	82	47	61	81	41	68	57	68	70	72	70
75 ..	135	332	124	185	174	120	217	176	150	172	146	163	168	142	166
									Female.						
0 ..	215	77	70	49	51	46	80	79	71	62	54	56	54	62	60
5 ..	5	2	1	3	3	3	2	3	2	6	4	3	3	4	3
10 ..	3	2	4	5	3	1	1	2	2	2	3	1	2	2	2
15 ..	11	8	11	8	8	4	3	6	3	7	4	4	6	6	6
20 ..	8	18	10	10	8	10	6	11	6	6	5	10	6	9	9
25 ..	14	15	12	11	11	9	8	11	7	9	10	9	11	12	11
35 ..	14	19	13	11	11	10	15	11	10	10	11	13	11	13	12
45 ..	18	18	15	18	17	20	16	19	13	12	22	11	14	20	15
55 ..	34	39	30	26	31	24	27	27	28	22	21	18	28	31	27
65 ..	58	102	40	60	77	46	56	49	48	43	34	29	52	54	51
75 ..	136	199	123	143	191	77	112	144	195	133	148	152	139	166	137

TABLE—1928 NOTIFICATIONS.

	Typhoid.	Pulmonary Tuberculosis.	Dysentery.	Chicken Pox.	Small Pox & Alastrim.	Leprosy.	Cerebro-Spinal Meningitis.	Erysipelas.	Puerperal Fever.	Diphtheria.	Poliomyelitis.	Para Typhoid
January ..	111	72	18	34	10	2	..	1	1	1	..	..
February ..	97	53	28	16	8	..	..	1	2	..	..	..
March ..	84	80	35	15	8	1	..	3	1	..	..	1
April ..	83	55	29	52	9	1	1	1	..	..	..	..
May ..	187	74	44	32	3	2	1	..	1	..	1	..
June ..	86	65	18	74	6	3	1	1	1	..	2	..
July ..	75	65	10	12	1	1	..	1	1	..	..	..
August ..	107	83	9	3	1	2	..	..	..	..	..	..
September ..	88	82	7	10	1	3	..	1	..	1	..	..
October ..	140	108	34	17	..	..	5	1	4	1	..	1
November ..	104	106	15	3	..	2	1	..	..	..	..	..
December ..	89	90	10	7	..	1	4	..	..	2	1	..
Not stated ..	1	..	..	..	..	..	..	..	..	..	..	..
Total ..	1,252	933	257	275	47	18	13	10	11	5	4	2
By Parishes:												
Kingston ..	263	300	50	26	..	3	1	2	..	1	2	2
St. Andrew ..	145	156	29	67	..	4	..	2	..	1	..	..
St. Thomas ..	57	39	32	2	7	..	..	..	1	..	..	..
Portland ..	149	49	9	5	1	..	1	..	1	..	..	..
St. Mary ..	85	41	17	37	..	1	..	1	2	1	1	..
St. Ann. ..	110	60	6	12	..	1	..	..	..	..	1	..
Trelawny ..	20	23	3	11	6	1	..	1	..	..	..	..
St. James ..	64	54	2	12	1	..	6	1	1	1	..	..
Hanover ..	9	25	1	1	..	..	1	..	1	..	..	..
Westmoreland ..	35	19	21	7	2	2	..	..	..	..	..	..
St. Elizabeth ..	61	12	..	1	..	1	..	..	..	..	..	..
Manchester ..	29	35	3	8	2	..	3	..	2	..	..	..
Clarendon ..	73	58	52	64	21	5	..	3	2	..	..	..
St. Catherine ..	146	61	32	22	6	..	1	..	1	1	..	..
Port Royal ..	1	1	..	..	..	..	..	..	..	..	..	..
Not stated ..	5	..	..	..	..	..	..	..	..	..	..	..
From ship board ..	..	..	..	..	1	..	..	..	..	..	..	..
Total ..	1,252	933	257	275	47	18	13	10	11	5	4	2

B. *Preventive Measures.*

(a) *Insect-borne Diseases:*

1. *Typhoid Fever.*—An increase in the number of notifications has to be recorded. Two small epidemics occurred, one of a diffuse character spread over some months in St. Elizabeth concomitant with a period of drought, and a short sharp outbreak in the Jericho District of St. Catherine. In this latter, the outbreak was probably due to infection of a water supply. The measures adopted were (a) Hospitalization of cases (b) Inoculation of contacts and general population (c) The appointment of a public health nurse to ferret out cases and investigate reports. 68 cases were reported with 5 deaths.

The age group incidence of this outbreak is shown in the following table.

Jericho Epidemic.

Age.	0–	5–	10–	15–	20–	25–	35–	45–	Not stated.	Total.
No. of cases	6	14	13	12	7	7	6	2	1	68

The age incidence and age at death by sexes of all notifications:—

	0–	5–	10–	15–	20–	25–	35–	45–	55–	65–	75–	N.S.
Males.												
Cases	58	94	95	97	99	93	25	6	7	3	1	17
Deaths	8	8	17	19	23	29	11	3	5	2	..	2
Females.												
Cases	58	103	118	119	88	101	36	22	4	2	..	6
Deaths	11	8	17	29	22	26	9	2	..	1	..	1

The amount of typhoid vaccine issued from the Laboratory was 1747cc or 1164 adult doses.

Two Health Officers who have practised for nearly thirty years hold that the increase in numbers of typhoid is more apparent than real as few cases were notified formerly, but that the interest awakened in health has caused people to notify any case of long illness. One of these officers is positive that there are fewer cases than formerly.

2. *Malaria.*—Dr. Mark Boyd of the Rockefeller Foundation Staff, together with Dr. Aris, and two Sanitary Inspectors trained at the Sanitary Inspectors School, carried out a very thorough Survey of Malaria in the Colony, which included estimating the splenic index and blood parasite rate of all the chosen schools. The principle followed was to start at the mouth of river and work up stream till two consecutive schools showed no cases of enlarged spleen. Later if positive blood smears were found in these schools, the investigation was carried to a higher altitude. At the same time the country was examined for possible breeding places and records kept of the number, stage and kind of anopheline larvae found. Night catches were also made on various baits, but chiefly on a white mule or horse.

The report of this survey will form a valuable basis for future work. In 1929, four selected areas of a one mile radius will be kept under examination, and the cost and effectiveness of various methods of malarial control estimated.

There was no defined epidemic during the year.

Return showing the amount of Quinine issued from the Medical Store during 1928.

Police for their own use ..	Tablets ..	14 lbs.	8 oz.
Post Offices for sale ..	" ..	300	
Estates ..	" ..	3	
Parochial Boards ..	" ..	2	6
Hospitals and Asylum ..	" ..	9	5
Hospitals and Asylum ..	Quinine Sulphate	156	1
Parochial Boards ..	" "	15	15
		501	3

No major anti-malarial work is reported except subsoil drainage at Salt Pond by the United Fruit Company. Among the minor work is the regular use of Paris Green by the Jamaica Public Service Company and by the United Fruit Company.

3. *Dysentery*—The number of cases remains about the same as last year. The parishes of Clarendon, St. Catherine and St. Thomas show slight increase in reports. No specific methods for prevention are reported and no epidemics occurred.

(b) *Communicable Diseases other than at* (a):

1. *Alastrim.*—A glance at the table of notifications by months will show that this disease has finally departed after a nine year sojourn in the Island. At its onset the death rate from the disease was small, but during the years 1923, 1926, 1927, one in every ten cases died. As a result of these nine years we have a race well protected by vaccination and by this disease from small pox.

The number of vaccinations done during this year was 27,122, and the cost of this in fees and vaccine was £2,831 18s. 7d.

2. *Tuberculosis.*—In order to estimate the present number of cases of pulmonary tuberculosis in the Island, and to form some idea of the menace of this disease to the Island's health, the Rockefeller Foundation instituted a Tuberculosis Survey under the direction of Dr. Opie of Philadelphia with Dr. Joyce Isaacs, two trained nurses and a statistician. Besides collecting data from large number of tuberculin reactions, they opened a Tuberculosis Clinic in Kingston. An Anti-Tuberculosis League was started and funds collected to assist the Clinic. We now await suggestions as to the action to be taken in preventing the spread of this disease.

The following table shows the age, sex, incidence of cases and deaths among the notified cases.

Male.

Age ..	0–	5–	10–	15–	20–	25–	35–	45–	55–	65–	75–	Not stated.
Cases ..	7	4	7	40	88	155	93	40	13	5	1	10
Deaths	2	1	2	9	25	51	37	14	5	2	..	2

Female.

Cases ..	2	7	21	66	90	142	83	26	11	10	2	10
Deaths ..	..	3	6	17	28	47	26	9	3	3	..	3

I have noted elsewhere that many of the deaths recorded on the Registrar General's Returns as consumption and phthisis are probably due to congenital syphilis.

3. *Cerebro-Spinal Meningitis.*—A localized outbreak occurred in the parish of St. James. The clinical signs were typical but the pathological findings in the cerebro-spinal fluid did not confirm the diagnosis.

4. Influenza has already been mentioned.

(c) *Helminthic Diseases*:

An account of these will be found in the Report of the Hookworm Units. The noteworthy features in prevention are the greatly improved and more permanent latrines that are being constructed and the great co-operation the Sanitation Units under Mr. Walker is getting from the public and the Parochial Boards.

4. Non-Communicable Diseases Affecting Public Health.

I have no remarks to offer under this head save that ackee poisoning and vomiting sickness were less noticeable during the year.

5. Food Supplies.

Many more seizures of food unfit for human consumption are recorded, mostly canned foods.

The safeguards mentioned in previous reports were continued.

There is no doubt that the training in meat inspection carried out in the Sanitary Inspectors School will have a good effect later.

6. Water Supplies.

Four Chlorinating Plants have been installed in the island. No complaints have reached the Central Board of Health calling for investigation.

The usual bacteriological and chemical reports are tabulated beneath.

The improvement in the bacterial count is to be noted in the Kingston Water Supply. That this is not due to the chlorination alone is proved by the good figures given by the Hope supply which has not yet been chlorinated.

Bacteriological Reports.

1. *Kingston Water Supply.*

	Constant Spring.				Hope.				Cavaliers.			
	Crude.		Filtered.		Crude.		Filtered.		Crude.		Filtered.	
	A.	B.	A.	B.	A.	B.	A.	B.	A.	B.	A.	B.
January ..	300	+ 1	2	− 30	100	+ 1	6	− 25	(a)	+ 1	43	− 30
February ..	1,000	+ 1	51	+ 80	400	+ 1	5	− 35	100	+ 1	35	− 35
March ..	500	+ 1	90	− 35	200	+ 1	2	−100	300	+ 1	18	− 35
April ..	500	+ 1	9	−100	200	+ 5	20	−100	..	+ 1	17	− 30
May ..	26,000	+ 5	5,280	− 30	200	− 5	87	− 90	240	+ 5	60	− 50
June ..	60	+ 1	20	+ 5	60	+ 5	30	− 10	55	+ 5	20	+ 5
July ..	1,000	− 6	70	− 16	230	− 6	20	− 16	320	− 6	40	− 16
August ..	505	− 1	30	− 10	170	− 5	34	+ 10	880	− 1	230	− 10
September ..	120	+ 5	5	− 35	200	− 5	8	− 25	190	+ 5	15	− 25
October ..	50	+ 5	5	− 16	55	+ 5	0	− 16	60	+ 5	29	− 16
November ..	180	+ 1	22	− 16	80	+ 1	8	− 16	170	+ 1	18	+ 5
December ..	90	+10	0	− 16	45	+10	28	− 10	60	+10	10	− 16

A—Total organisms in c.c.
B—B.C.C. in c.c.

2. *Spanish Town Water Supply.*

	At Intake.		In Reservoir.		In Town.	
	A.	B.	A.	B.	A.	B.
January		Error in technique				
February ..	6,500	+ 1	670	− 10	53	− 10
March	..	..	..	..	..	..
April	..	..	..	..	..	..
May	2,500	− 5	970	− 10	100	− 10
June	..	+ 1	(a)	+ 1	(a)	+ 5
July	1,500	+ 1	300	+ 1	50	+ 5
August	900	+ 5	500	− 5	175	+ 10
September	(a)	+ 1	105	+ 10	3	− 10
October	360	+ 5	280	+ 5	10	+ 10
November	(a)	+ 1	105	+ 5	15	+ 5
December	(a)	+ 1	40	+ 1	5	+ 1

(a)—Too numerous to count
A—Crude or raw.
B—Filtered.

3. *Miscellaneous.*

July	20	− 30	Ice Factory, Siloah	
	20	− 35	"	Kingston
October ..	80	− 10	Manchester Waters	
	30	− 10	Do.	do.
	20	− 10	Do.	do.
	18	− 10	Do.	do.
	10	− 10	Do.	do.
	10	+ 5	Do.	do.
	105	+ 5	Do.	do.
	10	− 10	Do.	do.
	110	+ 10	Malvern	
	70	+ 10	Do.	
	(a)	− 16	Matinee Spring	
October	1,580	+ 1	Stony Hill	
	370	+ 1	Do.	
November ..	100	+ 1	Papine Crude	
	(a)	+ 1	Do. Filtered	
December ..	(a)	+ 5	Clifton Hill	

(a)—Too numerous to count.

Chemical Reports in parts per 100,000.

	Total Solids.	Chlorine.	Ammon. Free.	Ammon. Albumenoid.	Nitrites.	Nitrates.	Oxygen consumed in 4 hours.	Hardness. Temporary.	Hardness. Permanent.	Hardness. Total.
			(1) Constant Spring Crude.							
31.1.28	14.00	0.70	.003	.012	..	..	.0474	3.29	5.00	8.29
22.5.28 ..	17.60	0.90	.0008	.028	..	..	.2058	5.67	3.90	9.57
13.7.28 ..	21.20	1.10	.0026	.0068	..	..	.0195	7.26	5.00	12.26
2.10.28 ..	18.40	0.90	.0006	.0052	..	..	.0641	6.36	5.14	11.50
			Constant Spring Filtered.							
31.1.28 ..	14.00	0.90	.002	.026	..	..	.0203	3.15	4.71	7.86
13.7.28 ..	19.60	1.10	.0038	.0090	..	..	.0250	7.23	4.57	11.80
2.10.28 ..	18.80	1.10	.0004	.0046	..	..	.0301	4.29	5.86	10.15
			(2) Hope Crude.							
31.1.28 ..	30.40	0.90	.0008	.0208	..	..	.0271	6.48	7.43	13.91
13.7.28 ..	39.20	1.20	.0012	.0050	..	..	.0166	7.48	8.71	16.11
2.10.28 ..	33.20	0.90	.0008	.0048	..	..	.0264	9.63	7.43	17.06
			Hope Filtered.							
31.1.28 ..	24.00	0.90	.010	.0064	..	..	.0135	7.04	6.57	13.61
13.7.28 ..	33.20	1.10	.002	.0060	..	..	.0111	4.28	11.20	15.48
2.10.28 ..	32.50	0.90	.006	.0038	..	..	.0075	8.73	7.86	16.59
			(3) Cavaliers Crude.							
31.1.28 ..	28.00	0.90	.0060	.0140	..	..	.0203	8.25	6.43	14.68
13.7.28 ..	40.80	5.90	.0010	.0090	..	..	.0305	7.92	9.14	17.06
2.10.28 ..	24.40	0.95	.0008	.0050	..	..	.0226	8.89	6.43	15.32
			Cavalier Filtered.							
31.1.28 ..	24.80	0.80	.0010	.0112	..	..	.0203	7.39	7.29	14.68
13.7.28 ..	46.80	9.40	.0008	.0010	..	..	.0083	9.24	8.14	17.38
2.10.28 ..	27.60	0.90	.0006	.0046	..	..	.0188	8.87	6.29	15.16

7. Conservancy and Refuse Removal.

Conditions as regards refuse removal remains as in the past few years.

Improvements in methods of conservancy and in abolishing the bucket system as far as possible are to be noted.

8. Maternity and Child Welfare.

The Child Welfare League in Kingston continues to do good work but is finding some difficulty in getting Medical Practitioners to give their services.

There is also a Creche at Montego Bay which does valuable work, and the various Orphanages and Industrial Schools continue to do good work.

Four Dental Clinics have been operating in the schools of St. Andrew, Kingston, St. Mary and Trelawny and it is hoped that other parishes will follow their example.

9. Town Planning and Housing.

No town planning has been carried on and no central body exists to take charge of this.

There is a noticeable improvement in towns and especially in rural districts in the class and style of house being erected. Two factors are concerned in this. (One)—the prosperity of the Island, and (two) the stimulus to building given by the Sanitation Units.

10. Quarantine.

Report of the Quarantine Board for 1928.

1. The work of the Quarantine Board during the year 1928 was of a routine nature.

No serious epidemic has occurred in the countries with which Jamaica has communication.

2. The Vaccination Regulations have been strictly enforced. No cases of small-pox or alastrim have entered Jamaica during the year.

3. Persons leaving for other countries can have their vaccination certificates certified free of charge, and this enables the owner to enter Jamaica on his return without hindrance.

While many certificates have been countersigned, it appears when the number is compared with the number of persons going to Proclaimed Places that there are still many persons who do not avail themselves of this facility, the consequence being that on their return not only have they to be vaccinated, but also are required either to go to the Quarantine Station or report daily at this office until the vaccination has taken. Practically every one elects to report.

4. One case of small-pox in the person of the assistant cook was removed from a tourist vessel during the year and sent to the Quarantine Station where he recovered.

5. Plague is still prevalent in many countries. The greatest need in regard to this disease is prompt notification and our arrangement with British Consuls at foreign ports torwards this end has been satisfactory.

6. Plague still persists in the Canary Islands. There was also an outbreak in Venezuela during the latter part of February.

This was stated to have been promptly eradicated, but it is very difficult to obtain reliable information regarding the health of that country. There is continual communication between ports in Venezuela particularly Maracaibo and Jamaica.

Every precaution was taken to keep out the disease. No further cases have been reported since March, and although the Regulations have been relaxed, the greatest care is still taken in regard to arrivals from that country.

7. Yellow fever has been prevalent during the year in certain ports of Brazil and also the West Coast of Africa. There is practically no direct communication between those countries and Jamaica.

8. During the year a change was made in the practice of boarding. Vessels are boarded at Port Royal from 6 a.m. to 6 p.m., and if necessary arrangements can be made on the request of the Agents to have vessels boarded outside official hours. All ports have been brought into conformity with Port Royal and the change has worked quite satisfactorily.

9. A further important change was made during the year. A Health Officer was appointed to Port Antonio and at the other ports all vessels are medically examined before pratique is granted.

Every person entering Jamaica is subject to medical inspection and this contributes a further barrier to the entrance of quarantinable diseases.

10. At Port Antonio and Bowden where vessels go alongside they are required as soon as work ceases for the night to go into the stream. This measure is a further protection against plague as it is at nights when everything is quiet that rats are most likely to get ashore.

11. A new launch for the Health Officer at Port Royal arrived early in the year. After fitting and ballasting it was put into service and has given satisfaction.

12. Four persons were detained in the Quarantine Station during the year. The Station is in good order, thoroughly equipped and ready to receive passengers, etc., at a moment's notice. There is also an efficient disinfecting machine to deal with baggage when necessary.

13. Commander Dix, C.M.G., D.S.O., R.N., Harbour Master in Jamaica, was appointed a Member of the Board during the year.

Charles Don,

Secretary, Quarantine Board.

The number of vessels granted pratique during the year 1928 at various ports throughout the Island was as under:—

Port Royal	1,235
Morant Bay	5
Port Morant	19
Port Antonio	289
Annotto Bay	2
Port Maria	33
St. Ann's Bay	7
Montego Bay	23
Lucea	7
Sav.-la-Mar	17
Black River	18
Alley	3
	1,658

CHARLES DON,
Secretary of the Quarantine Board

11. EDUCATIONAL MEASURES.

Health Week is observed in every parish in the Island and interest aroused is of great value.

The Sanitary Inspectors School is a factor of importance. It held its second session in 1928, and has just completed its third in 1929.

57 students have passed through this school and 34 of these have obtained the Sanitary Inspectors (Colonial) Certificate from the Royal Sanitary Institute.

Lectures were delivered by the S.S.M.O. at Friendship in Westmoreland, Claremont in St. Ann and Goshen in St. Mary. About 1,400 persons attended these.

"Jamaica Public Health" continues to flourish and is of real value in educating the public.

The Health Officer, St. Andrew, has inaugurated a Health Crusade ..... A sample card is seen on pages 28 and 29. The teachers have promised to mark the cards, and he has no doubt he will be able to obtain prizes for the children who do best in carrying out regularly the health practices. The "Crusade" is not an organization, but a system of health education, or rather of training in health habits. The Health Officer formulated a leaflet on the "prevention of dysentery." He also got the Provisions of the Health Law in regard to Communicable Diseases printed in leaflet form ..... A copy to be handed to the householder whenever there is a case of Infectious Disease.

12. RECOMMENDATIONS.

The S.S.M.O. recommends:—

1. Increased accommodation for the Office and Sanitary Inspectors School.
2. The establishment of a Public Health Laboratory.

DAILY HEALTH PRACTICES. JAMAICA HEALTH CRUSADE. - - - - ST. ANDREW.

Date From.....to.....

	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1. I was in bed for at least ten hours last night, with my windows open.																																			
2. I brushed my teeth morning and evening.																																			
3. I went to the latrine at my regular time and washed my hands after.																																			
4. I had a bath at least three times a week																																			
5. I cleaned my finger nails to-day and washed my hands before each meal.																																			
6. I took ten or more deep breaths of fresh air.																																			
7. I carried a handkerchief and used it to protect others if I coughed or sneezed.																																			
8. I kept my fingers, pencil and everything likely to be unclean or injurious out of my nose and mouth.																																			
9. I drank at least four glasses of water.																																			
10. I tried to eat slowly and only wholesome food, no sweets between but only after meals.																																			
11. I tried to avoid accidents to others and myself. I looked both ways before crossing the road.																																			
Total number of Health Practices done each week.																																			

I certify on my honour that I did every Health Practice marked X on the day indicated and the total number written on this Record for each week.

I believe that this record is correct.

.....
Signature of boy or girl and age.

.....
Signatures of Teacher and Parents.

.....
School.

	FIRST WEEK.							SECOND WEEK							THIRD WEEK							FOURTH WEEK							FIFTH WEEK						
	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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10																																			
11																																			
Total																																			

PRACTICE	SIXTH WEEK							SEVENTH WEEK							EIGHTH WEEK							NINTH WEEK							TENTH WEEK						
	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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I certify on my honour that I did every Health Practice marked X on the day indicated and the total number written on this Record for each week.

I believe that this record is correct.

.... *Signature of boy or girl and age.*

.... *Signatures of Teacher and Parents.*

.... *School.*

The Health Officer, St. Andrew, recommends:—

1. Ex ension of the activities of the Child Saving League to this parish.
2. Employment of a woman Health Visitor.
3. Examination and treatment of school children.
4. Provision of a Tuberculosis Dispensary.
5. A Housing Scheme for the poor.
6. A protected water supply for each district.
7. A Parochial Midwife in each country district.
8. Examination of all Dairymen and Bakers.
9. More public sanitary conveniences.
10. The M.O.H. should have greater facilities for obtaining early information re births and deaths in the parish.
11. Construction of concrete water tables in the sever. townships.
12. Channelling of the gullies used for carrying off sullage water.
13. The following should be licensed so as to keep them under proper control:—
    1. Bakeries and breadshops.
    2. Dairies and milkshops.
    3. Ice cream shops and vendors of soft drinks and ice cream.
    4. Restaurants and eating houses.

The Health Officer, Claremont recommends:—

Sanitation would be more expeditiously and permanently established if it were possible for the Education Department to take a greater share in the efforts being made by the various Medical Departments. The hygienic standard of the mass of our population can be improved more rapidly if the principles are taught whilst they are young. Lectures by Medical Officers are of great value; but of much greater value would be the constant influence of the teachers by regular talks on hygiene, and taking corrective measures, when on observation a child's habits were found to be uncleanly and insanitary. For this purpose teachers would need a more thorough and practical training in sanitation during their college course; and the Department would need to give "Hygiene, etc." a more important place in the school curriculum and at examinations.

For example: an interested teacher would be willing to see that paper was cut up and always hanging in the school latrines; that a basin of disinfectant, e.g., Jeyes and water, was placed on a stand outside the latrine and the children made to wash their hands after using the latrine, etc. They would, besides giving more lectures to classes, see that the school latrines are kept in such sanitary condition that they would be a lesson to their pupils, and would impress them with the need for having clean homes and good latrines when they themselves become adults. I have to commend almost all the teachers in my district fo their personal interest; but the best results cannot be obtained except under the full approval, control and direction of the Education Department.

Another direction in which the interests of sanitation can be more rapidly and beneficially extended is in the matter of improved water supplies for the district.

I would beg respectfully to suggest that every encouragement should be given to householders to construct their own tank; and some of the following ways might be found practicable:

1 (a) Impose a small water rate or tax to be collected with other taxes from every householder who has not got a water-container of adequate size for the use of his family. Such monies collected could be used for building more public tanks and for forming the nucleus of a fund for making loans to householders for the purpose of building tanks.

As more private tanks were built there would be a lessened drain on the public tanks and a decreased need for providing such public tanks.

(b) As soon as a householder had provided himself with a suitable tank he would be relieved of his water tax.

2. Loans might be made to householders for building tanks, best of all by means of "loans in kind," e.g., cement, etc., duty free; the value of the loan to be charged on the value of the property, etc., etc.

I beg earnestly to point out that intrinsically there should not be much more difficulty, although perhaps taking a longer time, in getting householders with proper help and encouragement to build tanks than it has been to get them to build latrines as they are now doing willingly and effectively, and that it is merely a matter of getting the organization started; and the work would soon be appreciated and as much co-operation would be exhibited by the population as is now being shown in latrine building.

The provision of a proper household water supply is only another step equally with latrine construction in the proper sanitating of an area.

On my visits to Bermuda where the rainfall is the only means of obtaining a water supply, I was greatly struck with the fact that every home had to have its own water supply; and that the municipalities, I was informed, had Inspectors to see that, roofs, gutters, tanks and walls were always adequately white-washed, lending an air of cleanliness which pleased the eye of all who are interested in sanitation. There is actually therefore no unsurmountable difficulty in adopting a similar system in our areas which like Bermuda depend entirely on rainfall for their water supplies.

The Health Officer, Lambs River recommends:

Medical inspection and treatment of school children.
Instruction in hygiene and sanitation in all schools.
Protected and adequate water supply for each district.

The Health Officer, St. James, recommends:—

1. The Creek is still a great eyesore and a menace, and not until it is paved will it serve its purpose—that of being the main sewer of the town—and a useful one at that; and also cease to be a menace in the form of mosquito breeding, etc.
2. Certain streets should be asphalted. This I have more than once recommended to the Parochial Board. This will keep the dust down and minimise the chance of contracting tuberculosis, etc.

3. The establishment of a new and more suitable place for tripe cleaning and selling.
4. To improve that section of the north gully between the St. James Street and the sea.
5. To provide laws for prosecuting vendors of food who do not appear to be examined.

The Health Officer Kingston recommends:—

1. A Home for cases of tuberculosis unsuitably housed or in poor circumstances unable to provide adequately for their upkeep and avoid being a source of infection to others. Without such provision, tuberculosis cannot be successfully fought in Kingston. Everybody who has given time and thought to this matter realises that this is so.
2. Another Nurse to do house to house work.

13. Scientific Papers and Investigations.

A case of Phosphorus poisoning reported as Yellow Fever. (G. C. Strathairn.)
An investigation into the prevalence of Typhoid Fever and its means of control (G. C. Strathairn.)

——	Kingston.	St. Andrew.	Portland.	St. Ann.	Trelawny.	St. James.	Westmoreland.	St. Elizabeth.	Manchester.	Clarendon.	
1. *Nuisance.*											
Complaints received ..	62,48	385	119	51	102	43	152	..	23	6	..
Notices served ..	1,452	1,241	569	488	393	229	177	..	4,546	8,960	..
Legal Proceedings taken ..	8	10	33	7	15	7	..	..	181	92	..
„ „ successful	7	10	28	7	10	6	..	..	180	92	..
2. *Infectious Disease.*											
Visits of Enquiry ..	..	..	9	595	47	17	9	..	46	158	..
Patients removed to Hospital ..	..	..	4	2	8	26	3	..	..	..	..
Intimation to School Teachers ..	..	..	1	41	23	..	..	..	..	..	..
Disinfections Houses and Clothing ..	342	..	38	147	75	131	58	..	..	16	..
Legal Proceedings ..	..	..	..	4	2	..	4	..	..	..	..
„ „ successful	..	..	..	..	..	..	..	..	..	..	..
3. *Dairies, etc.*											
On Register 1.1.28 ..	..	31	39	11	5	..	13	..	..	..	..
Registered in 1928 ..	..	..	..	..	..	..	1	..	..	..	..
Removed from Register in 1928	..	..	..	..	..	..	..	..	..	..	..
Remaining on Register 31.12.28	..	31	39	11	5	..	14	..	..	..	..
Inspections ..	..	504	40	..	47	..	5	..	..	..	..
Contraventions of Bye Laws	..	..	..	..	2	..	..	..	..	..	..
Legal Proceedings ..	..	..	..	..	2	..	..	..	..	..	..
4. *Sale of Food and Drugs Law.*											
Samples procured for analysis ..	..	77	..	..	11	..	..	..	..	..	..
Samples certified genuine	..	74	..	..	6	..	..	..	..	..	..
Samples certified adulterated	..	3	..	..	5	..	..	..	..	..	..
Legal Proceedings ..	..	3	..	8	5	..	..	..	..	..	..
„ „ successful	..	3	..	8	..	..	..	..	..	..	..
5. *Offensive Trades.*											
No. of Public Slaughter Houses	1	1	1	1	..	..	..	..	..	..	..
No. of Private Slaughter Houses ..	..	..	..	11	9	..	16	..	..	..	..
No. of Inspections of above	70	365	..	208	127	..	47	..	103	..	..
No. of Inspections of other offensive Trades ..	43	..	8	6	22	..	26	..	..	..	..
Legal Proceedings ..	..	..	..	..	..	..	..	..	..	..	..
„ „ successful	..	..	..	..	..	..	..	..	..	..	..
6. *Unsound Food.*											
Inspections, No. of ..	..	1,500	315	30	50	..	22	..	869	..	..
Seizures, No. of ..	49	31	28	9	13	..	2	..	44	..	..
Legal Proceedings ..	..	..	..	..	1	..	..	..	..	..	..
„ „ successful	..	..	..	..	1	..	..	..	..	..	..

SCIENTIFIC PAPERS AND INVESTIGATIONS, *contd.*—

	Kingston.	St. Andrew.	Portland.	St. Ann.	Trelawny.	St. James.	Westmoreland.	St. Elizabeth.	Manchester.	Clarendon.	
7. *Bye-Laws.*											
Inspections of—											
(a) Premises ..	73,205	..	481	..	1,434	..	..	..	13,916	..	..
(b) Bakeries and Bread Shops ..	3,120	..	112	..	76	..	..	..	986	..	..
(c) Milk Shops ..	419	..	..	..	..	..	..	..	..	..	..
(d) Stables ..	539	..	..	..	..	..	..	..	216	..	..
(e) Lodging Houses and Hotels ..	987	..	..	..	..	..	..	..	48	..	..
(f) Factories ..	613	..	..	..	..	..	..	..	329	..	..
(g) Groceries ..	1,156	..	..	..	226	..	..	..	560	..	..
(h) Laundries ..	215	..	..	..	..	..	..	..	..	..	..
(i) Beef Shops ..	657	..	..	..	..	..	..	..	..	..	..
(j) Ice Shops ..	1,208	..	..	..	..	..	..	..	..	..	..
(k) Restaurants ..	797	..	..	..	..	..	..	..	..	..	..
(l) Schools ..	745	..	..	..	85	..	..	..	79	..	..
(m) Other Shops and Trades	4,671	..	..	..	..	..	..	..	..	..	..
(n) Inspections of food vendors ..	3,694	..	15	..	529	..	..	..	3,086	..	..
(o) Reporting wasting of water	1,546	..	..	..	..	..	..	..	..	..	..
(p) Swine, Keeping of	..	..	20	..	..	..	..	..	..	..	..
(q) Water Supply ..	..	..	21	..	366	..	..	..	..	..	..
(r) Sanitary Conveniences ..	..	..	..	..	216	..	..	..	13,916	..	..
(s) Markets ..	..	..	..	..	120	..	..	..	309	..	..
(t) Refuse Disposal ..	..	..	..	..	..	..	..	..	..	..	..
8. *Miscellaneous.*											
Rats reported destroyed ..	2,092	..	..	1,720	..	..	..	74	..	..	..
Rats examined for plague	295	..	..	16	..	..	..	..	..	..	..
Rats with plague ..	nil.	..	..	..	..	..	..	..	..	..	..
Mosquito inspection ..	73,205	..	..	..	..	18	..	..	387	6	..
Larvae found ..	859	..	..	..	..	11	..	..	94	6	..

No records received from :— St. Thomas, St. Mary, Hanover, St. Catherine and Port Royal.

LIST OF FOOD STUFFS CONDEMNED AND DESTROYED.

Fish—	
Fresh	65 lbs.
Pickled ..	50 lbs.
Tinned ..	325 tins
Cod Fish ..	20 lbs.
Cod Roes	3 tins.
Haddock	20 tins
Herrings	200 lbs. and 78 tins.
Mackerels	75 lbs.
Salmon	45 tins
Sardines	141 tins
Shrimps	3 tins
Bread Stuffs, etc.	
Bread	10½ lbs.
Cornmeal ..	100 lbs.
Flour	600 lbs.
Sweet Corn	6 tins
Milk	75 qts.
Milk (Condensed) ..	7 tins
Butter	2 tins
Sugar	125 lbs.
Jams	21 tins
Cocoa	1 tin
Coffee	8 qts.
Mixed Pickles ..	2 bots.

List of Food Stuffs Condemned and Destroyed—*contd.*

Meat, etc.—	
Beef	180 lbs.
Beef livers ..	22
Beef, corned ..	1 tin
Crisco	1 tin
Jelly Powder ..	1 tin
Mutton ..	3½ lbs.
Mutton livers ..	2
Pork	2 carcasses and 39 lbs.
Pork livers ..	5
Pork and Beans ..	10 tins
Sausage	1 tin
Soup	22 tins
Tinned Meat ..	25 tins
Tongue ..	1 tin
Fruits, Vegetables—	
Ackees	3 tins
Apricots	1 tin
Cherries ..	3 tins
Figs	44 tins
Fruit	1 tin
Grapes	7 tins
Peaches	7 tins
Pears	2 tins
Peas	11 tins
Tomatoes ..	12 tins
Tomatoes ..	2 bots.

Note.—This is only a partial list as we have no return for Kingston and some other places.

G. C. Strathairn,
Senior Sanitary Medical Officer.

(a) Expenditure of the Department for the Year ended 31st December, 1928.

	Personal Emoluments.	Other Charges.	Total Expenditure.	Amount of Dues Collected.	Actual Expenditure after deducting Dues Collected.	Grants Estimated.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
General Administration—						
Island Medical Office ..	4,174 1 4	1,206 10 11	5,380 12 3	..	5,380 12 3	5,399 0 0
District Medical Officers ..	9,285 0 10	..	9,285 0 10	..	9,285 0 10	9,450 0 0
Personal Allowance, D.M.O. Stony Hill ..	25 0 0	..	25 0 0	..	25 0 0	25 0 0
Health Officer, Port Royal ..	768 18 1	..	768 18 1	..	768 18 1	750 0 0
Supernumerary Medical Officer ..	400 0 0	..	400 0 0	..	400 0 0	400 0 0
Supernumerary Dispensers ..	292 10 0	..	292 10 0	..	292 10 0	315 0 0
Temporary Outstations ..	50 0 0	..	50 0 0	..	50 0 0	50 0 0
Leave to Subordinate Staff ..	143 4 6	..	143 4 6	..	143 4 6	80 0 0
Dispensing for Constabulary ..	12 0 0	..	12 0 0	..	12 0 0	12 0 0
Fees for Medical Board ..	1 1 0	..	1 1 0	..	1 1 0	10 0 0
Fees to Medical Council	14 14 0	..	14 14 0	..	14 14 0	20 0 0
Bacteriological Branch ..	1,437 13 8	439 6 9	1,877 0 5	139 9 8	1,737 10 9	1,781 0 0
Quarantine ..	581 14 2	1,642 19 8	2,224 13 10	177 0 0	2,047 13 10	2,508 0 0
Central Board of Health ..	1,096 13 4	183 17 4	1,280 10 8	..	1,280 10 8	1,261 0 0
Bureau of Public Health Education ..	..	208 13 0	208 13 0	..	208 13 0	250 0 0
Training School for Sanitary Inspectors ..	..	263 1 3	263 1 3	..	263 1 3	286 0 0
Health Unit ..	..	0 12 0	0 12 0	..	0 12 0	188 0 0
Treatment of Yaws ..	..	4,086 17 0	4,086 17 0	..	4,086 17 0	3,750 0 0
Expenditure under Part IV of the Public Health Law ..	..	686 6 4	686 6 4	..	686 6 4	2,000 0 0
Hookworm Eradication ..	..	5,888 1 0	5,888 1 0	..	5,888 1 0	6,072 0 0
Venereal Diseases Clinic ..	..	1,164 2 2	1,164 2 2	40 2 6	1,123 19 8	1,141 0 0
Drugs and Poisons Law ..	..	23 12 6	23 12 6	24 0 0	* 0 7 6	18 0 0
Midwifery Law ..	..	13 6 0	13 6 0	..	13 6 0	12 0 0
Vaccination Fees ..	..	2,311 16 1	2,311 16 1	..	2,311 16 1	2,975 0 0
Miscellaneous Drugs ..	..	1,591 2 9	1,591 2 9	..	1,591 2 9	1,825 0 0
Malarial Survey ..	..	1,344 19 8	1,344 19 8	..	1,344 19 8	675 0 0
Hospitals and Lepers' Home—						
Public Hospital ..	11,851 4 8	17,023 15 6	28,875 0 2	600 19 0	28,274 1 2	26,909 0 0
Jubilee Hospital ..	1,219 2 5	1,907 16 4	3,126 18 9	1,135 19 9	1,990 19 0	3,361 0 0
Lepers Home ..	967 14 6	2,346 12 0	3,314 6 6	..	3,314 6 6	3,108 0 0
17 Dispensers ..	3,056 9 5	..	3,056 9 5	..	3,056 9 5	3,054 0 0
19 Matrons ..	2,107 19 1	..	2,107 19 1	..	2,107 19 1	2,012 0 0
Morant Bay ..	232 6 10	562 10 3	794 17 1	9 10 6	785 6 7	811 0 0
Hordley ..	357 14 6	1,052 9 7	1,410 4 1	12 16 0	1,397 8 1	1,332 0 0
Port Antonio ..	467 9 1	1,550 0 5	2,017 9 6	54 17 10	1,962 11 8	1,921 0 0
Buff Bay ..	557 14 10	1,135 12 11	1,693 7 9	19 11 0	1,673 16 9	1,617 0 0
Annotto Bay ..	419 16 8	1,655 8 3	2,075 4 11	50 16 6	2,024 8 5	1,864 0 0
Port Maria ..	595 6 6	1,679 4 7	2,274 11 1	25 17 0	2,248 14 1	2,856 0 0
St. Ann's Bay ..	275 16 5	1,190 1 0	1,465 17 5	17 0 2	1,448 17 3	1,603 0 0
Cave Valley ..	135 4 0	378 19 4	514 3 4	..	514 3 4	508 0 0
Falmouth ..	283 4 8	934 8 3	1,217 12 11	1 12 0	1,216 0 11	1,141 0 0
Ulster Spring ..	110 1 0	243 0 9	353 1 9	7 19 6	345 2 3	357 0 0
Montego Bay ..	367 19 6	881 1 0	1,249 0 6	24 14 8	1,224 5 10	1,154 0 0
Lucea ..	277 8 1	926 4 5	1,203 12 6	..	1,203 12 6	1,109 0 0
Sav.-la-Mar ..	510 6 3	1,420 7 9	1,930 14 0	42 3 0	1,888 11 0	1,803 0 0
Black River ..	370 18 6	1,432 3 2	1,803 1 8	125 12 0	1,677 9 8	1,405 0 0
Mandeville ..	303 8 4	1,011 19 10	1,315 8 2	122 12 0	1,192 16 2	1,263 0 0
Chapelton ..	385 16 6	940 12 7	1,326 9 1	4 7 0	1,322 2 1	1,261 0 0
Lionel Town ..	385 1 3	1,206 4 4	1,591 5 7	18 13 0	1,572 12 7	1,763 0 0
Spanish Town ..	467 15 11	1,747 18 6	2,215 14 5	0 13 6	2,215 0 11	2,025 0 0
Linstead ..	319 14 0	981 18 6	1,301 12 6	15 2 0	1,286 10 6	1,251 0 0
Instruments ..	..	262 8 5	262 8 5	..	262 8 5	325 0 0
Inland Freight	..	435 9 10	435 9 10	..	435 9 10	400 0 0
Improvements in lighting ..	..	241 15 2	241 15 2	..	241 15 2	500 0 0
	44,308 3 10	64,203 7 1	108,511 10 11	2,671 8 7	105,840 2 4	107,966 0 0
Lunatic Asylum ..	17,534 18 8	27,644 0 10	45,178 19 6	2,780 17 6	42,398 2 0	43,717 0 0

* Minus 7/6.

(b) Return showing Annual Cost per occupied bed for the year ended 31st December, 1928.

	Average No. of beds occupied.	Cost of Staff.	Cost of Dietary.	Total.	Cost per occupied bed per annum. Staff.	Cost per occupied bed per annum. Dietary.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Public Hospital ..	307	7,691 7 0	8,401 12 0	16,092 19 0	25 1 1	27 7 4
Jubilee Hospital ..	35	1,043 0 2	973 8 8	2,016 8 10	29 16 0	27 16 3
Leper's Home ..	98	755 6 0	1,498 1 1	2,253 7 1	7 14 2	15 5 9
Morant Bay ..	19	526 1 10	268 13 4	794 15 2	27 13 9	14 2 10
Hord'ey	30	648 15 7	511 9 1	1,160 4 8	21 12 6	17 1 0
Port Antonio ..	53	760 4 4	833 14 9	1,593 19 1	14 6 11	15 14 7
Buff Bay ..	43	829 17 8	682 10 7	1,512 8 3	19 6 0	15 17 5
Annotto Bay ..	54	728 7 4	820 10 4	1,548 17 8	13 9 9	15 3 11
Port Maria ..	66	953 13 2	1,034 16 6	1,988 9 8	14 9 0	15 13 7
St. Ann's Bay ..	19	568 14 9	351 6 7	920 1 4	29 18 8	18 9 10
Cave Valley ..	12	248 19 0	189 3 8	438 2 8	20 14 11	15 15 4
Falmouth ..	29	574 11 4	522 16 4	1,097 7 8	19 16 3	18 0 7
Ulster Spring ..	7	197 4 10	107 5 9	304 10 7	28 3 7	15 6 6
Montego Bay ..	28	661 14 6	429 18 8	1,091 13 2	23 12 8	15 7 1
Lucea	25	553 16 7	412 3 4	965 19 11	22 3 1	16 9 9
Sav.-la-Mar ..	56	804 1 3	805 15 10	1,609 17 1	14 7 2	14 7 9
Black River ..	55	664 13 6	827 18 7	1,492 12 1	12 1 8	15 1 1
Mandeville ..	32	597 3 4	570 9 2	1,167 12 6	18 13 3	17 16 6
Chapelton	27	679 11 6	459 11 6	1,139 3 0	25 3 5	17 0 5
Lionel Town ..	46	658 16 3	713 16 10	1,372 13 1	14 6 5	15 10 4
Spanish Town ..	61	729 8 11	899 3 4	1,628 12 3	11 19 2	14 14 10
Linstead ..	32	601 15 8	527 9 7	1,129 5 3	18 16 1	16 9 8
	1,134	21,477 4 6	21,841 15 6	43,319 0 0	..	..
Lunatic Asylum ..	1,583	13,621 11 9	20,175 9 1	33,797 0 10	8 12 1	12 14 11

(c)—Value of Drugs, etc., supplied to the various Institutions from the Island Medical Stores, during the year 1928, January 1st to December 31st.

	£ s. d.
Value of Drugs and Sundries to the Public General Hospitals, Lepers' Home and Medical Districts	4,327 17 9
,, Stimulants to Public General Hospitals and Lepers Home	69 15 0
,, Drugs, etc., issued to Kingston Public Hospital	3,433 11 11
,, Stimulants issued to Kingston Public Hospital	420 10 4
,, Drugs issued to Jubilee Hospital	100 6 7
,, Stimulants issued to Jubilee Hospital	4 0 0
,, Drugs, etc., issued to Lunatic Asylum	319 19 7
,, Drugs, etc., issued to Prisons and Reformatories	339 9 1
,, Drugs, etc., issued to Department of Agriculture	17 6 10
,, Drugs, etc., issued to Quarantine Board	4 10 4
,, Drugs, etc., issued to Parochial Boards	1,005 12 3
,, Stimulants issued to Kingston and St. Andrew Corporation	1 8 6
,, Drugs, etc., issued to Constabulary Department	45 3 7
,, Drugs and Sundries sold	238 10 5
,, Lymph issued to District Medical Officers	565 17 6
,, Lymph sold	21 12 0
,, Drugs, etc., issued to Shortwood College	0 12 2
,, Drugs, etc., issued to Jamaica Government Railway	20 17 1
,, Drugs, etc., issued to Hookworm Commission	283 2 9
,, Drugs, etc., issued to United Fruit Co.	11 6 8
,, Quinine issued to Post Office for Packets	558 15 0
,, Drugs issued for Fumigation	85 13 5
,, Quinine issued to Schools	18 12 6
,, Quinine issued to Estates	5 11 9
,, Drugs, etc., issued to V. D. Clinic, Kingston Public Hospital	833 8 6
	£12,733 11 6

During the year there were three examinations, two general and one special, held under Law 20 of 1926. "The Sale of Drugs and Poisons Law" at which twenty-six candidates presented themselves, including nine from the Public Hospital. In all thirteen candidates including five from the Public Hospital satisfied the Examiners and were granted licenses.

(d)—Statement of Diseases in Public General Hospitals. (not including Kingston).

	Cases.	Deaths.	Out-Patients.
Alastrim ..	1	..	..
Chicken Pox	9	..	2
Diphtheria	2	1	..
Dengue	1	..	..
Dysentery—Amoebic ..	35	6	20
,, Bacillary ..	9	2	3
,, Unclassified	9	..	1
Erysipelas	12	1	..
Enteric Fever Group ..	512	117	8
Gonococcal Infections ..	501	2	730
Influenza	49	..	100
Leprosy	..	..	1
Malaria—Tertian ..	1,173	34	1,760
,, Quartan ..	87	1	..
,, Sub-tertian ..	14	8	18
,, Chronic ..	14	..	52
,, Blackwater ..	12	5	1
,, Unclassified ..	136	6	57
Measles	1	..	3
Meningococcal Meningitis	5	2	..
Acute Poliomyelitis ..	3	..	16
Mumps	..	..	3
Soft Chancre ..	83	..	90
Syphilis—Primary ..	173	..	471
,, Secondary ..	122	4	553
,, Tertiary ..	312	8	902
,, Congenital ..	37	..	59
,, Unclassified ..	20	..	979
Septicaemia ..	16	12	..
Tetanus	32	12	..
Tuberculosis—Pulmonary	105	23	144
,, Other forms	67	9	55
Whooping Cough ..	..	..	21
Yaws	131	..	477
Alcoholism	7	..	2
Anaemias	30	2	124
Beri-beri	1	..	..
Diabetes	19	..	2
Pellagra	8	..	2
Rheumatism—Acute ..	93	2	40
,, Chronic ..	27	..	582
Tumours—Malignant ..	104	14	71
,, Non-Malignant	66	1	32
Ainhum	3	..	..
Diseases of Ductless Glands	10	..	..
Diseases of the Nervous System	235	27	482
Diseases of the Eye ..	180	..	286
Diseases of the Ear ..	28	..	18
Diseases of the Circulatory System ..	353	37	300
Diseases of the Respiratory System ..	364	61	343
Diseases of the Digestive System	809	78	1,794
Parasites—Ascaris ..	18	..	101
,, Ankylostomiasis	108	8	150
,, Unclassified	2	..	5
Disease of the Genito-urinary System (non-venereal) ..	1,359	95	912
Diseases of the Puerperal State	322	30	14
Diseases of the Skin and Cellular Tissues ..	1,171	29	8,860
Diseases of the Bones and Organs of Locomotion ..	186	7	808

Statement of Diseases in Public General Hospitals (not including Kingston), *contd.*

	Cases.	Deaths.	Out-Patients.
Malformations ..	5	..	2
Diseases of Infancy ..	17	5	5
Diseases of Old Age ..	1	..	13
Diseases produced by External Causes ..	2,204	42	3,472
Ill-defined Diseases ..	3	..	13
No Disease ..	104	..	..
	11,520	691	24,959

Death Rate—5.998%

VI—APPENDICES.

APPENDIX I.

Report of the Pathological Laboratory, Island Medical Department, for the year ended 31st December, 1928.

Administration.

The Laboratory Staff during the first six months of the year consisted of:—

1 Bacteriologist and Pathologist.
1 Honorary Bacteriologist and Pathologist.
1 First Assistant.
1 Second Assistant.
1 Third Assistant.
1 Laboratory Washer whose duties are those of Messenger and Technical Assistant.
2 Hospital Labourers, who attend in the afternoon to do the necessary washing and cleaning.

In June, Dr. G. M. Hargreaves, the Acting Bacteriologist and Pathologist was appointed to the Medical Service in Kenya and the Laboratory suffered the loss of his services.

Since June 19th the staff has consisted of:—

1 Bacteriologist and Pathologist (Part-time).
1 Assistant Bacteriologist and Pathologist (Part-time).
3 Assistants, 1 washer and 2 labourers as above.

General.

Equipment:—During the early part of the year an electrically operated refrigerator was obtained. Towards the end of the year two microscopes were sent to England for general overhauling.

In December, the following books were added to the Laboratory Library:—

The Pathology of Tumours—Kettle.
Modern Methods in the Diagnosis and Treatment of Renal Disease—Hugh MacLean.
Manual of Bacteriology—Muir and Ritchie.
Practical Pathology, Morbid Anatomy and Post Mortem Technique—James Miller.
Clinical Bacteriology and Haematology—Emery.
Recent Advances in Anatomy—Woollard.
Recent Advances in Physiology—Lovatt Evans.

The total number of examinations carried out during the year is 9,153. Table 1 indicates the origin of the specimens and the numbers received each month.

Origin of Specimens.

Table 1.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Kingston Public Hospital ..	553	561	496	453	551	498	510	620	564	641	579	340	6,366
Asylum	33	18	17	15	1	22	7	6	16	18	14	3	170
Other Institutions	122	94	57	40	82	149	100	93	101	105	120	73	1,136
Country Medical Districts	81	103	108	148	121	88	58	81	70	94	75	57	1,084
Private Practitioners	31	55	23	26	25	28	36	42	29	37	37	28	397
Total	820	831	701	682	780	785	711	842	780	895	825	501	9,153

For convenience the work will be divided in the following sections: 1 Bacteriological: 2 Routine Clinical : 3 Morbid Anatomy: 4 Biochemical: 5 Vaccine.

Bacteriological Section.

Table 2.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Serum Diagnosis—													
Agglutination Tests for Enteric group ..	89	97	85	96	84	71	70	70	67	88	54	63	934
Agglutination Tests for Dysentery group	4	0	0	0	0	1	0	0	0	0	0	..	5
Wassermann Reaction	336	347	248	309	354	329	236	372	333	357	385	154	3,760
Meinicke Turbidity Reaction ..	0	0	0	0	0	0	24	48	45	48	48	0	213
Unclassified Tests	4	2	7	9	5	0	0	5	0	6	0	0	38
Blood Culture	2	6	3	4	2	0	2	0	0	0	0	1	20
Faeces Culture	0	1	1	0	0	0	0	1	2	0	1	0	6
Cultures from Throat Swabs ..	3	3	1	2	1	0	0	1	1	0	0	3	15
Cerebro-spinal Fluid Culture ..	1	0	0	0	0	0	3	0	0	2	0	1	7
Wassermann	0	3	1	2	1	0	2	1	1	0	0	0	11
Bacterial Analyses of Water Samples ..	10	16	15	0	12	13	13	18	18	31	34	27	207
Unclassified Tests	4	9	10	4	1	0	1	0	0	0	0	0	29
Animal Tests	0	0	4	4	0	0	0	0	0	0	2	2	12
Total	453	484	375	430	460	414	351	516	467	532	524	251	5,257

Agglutination Tests for Enteric Group.

Dreyer's Macroscopic tube method is routine.

Table 3 classifies these results—Postive = Agglutination: over 8 standard units per c.c. Doubtful = Agglutination: under 8 standard units per c.c. Negative = No agglutinations.

Table 3.

Month.	Positive.	Negative.	Doubtful.	Total.
January	33	42	14	89
February	47	41	9	97
March	32	44	9	85
April	37	54	5	96
May	38	37	9	84
June	20	44	7	71
July	25	39	6	70
August	19	39	12	70
September	21	36	10	67
October	12	68	8	88
November	14	29	11	54
December	32	27	4	63
Total ...	330	500	104	934
	35.3%	53.6%	11.1%	

Wassermann Reaction:—The method of McIntosh and Fildes is employed as routine.

The Wassermann test is performed only once a week. Sometimes there are cases which require immediate sero-diagnosis and the need for a second serological test which may be quickly applied in the intervals between Wassermann days becomes pressing. Further, a good control test of this type which can be run parallel with the Wassermann would be a useful adjunct to the Laboratory technic.

With these aims in view an effort was made to determine the comparative values of the Wassermann test and the Meinicke Turbidity Reaction under tropical conditions. A full report is appended.

Wassermann Reaction.—Table 4 indicates the origin of the specimens and the numbers examined each month.

Table 4.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
From the Kingston Public Hospital ..	233	272	197	225	281	246	197	313	268	275	306	122	2,935
From the Asylum	24	13	13	10	1	18	3	6	13	15	14	3	133
From other Institutions	50	26	10	21	32	35	19	25	27	28	29	6	308
From Country Medical Districts ..	19	24	20	43	33	24	12	16	18	25	18	17	269
From Private Practitioners ..	10	12	8	10	7	6	5	12	7	14	18	6	115
Total	336	347	248	309	354	329	236	372	333	357	385	154	3,760

Wassermann Reaction.—Table 5 indicates the results classified as Positive (Strong Positive and Weak Positive), Doubtful and Negative.

Table 5.

Month.	Positive.	Negative.	Doubtful.	Total.
January	181	129	26	336
February	155	159	33	347
March	121	113	14	248
April	132	150	27	309
May	176	147	31	354
June	126	170	33	329
July	157	57	22	236
August	180	149	43	372
September	206	99	28	333
October	193	133	31	357
November	221	125	39	385
December	83	64	7	154
Total ..	1,931	1,495	334	3,760
	51.4%	39.7%	8.9%	

Blood cultures were made from 20 cases. B. typhosus was recovered in 1 instance. From 2 cases of septicaemia streptococci were isolated; 11 cultures were sterile, 6 were contaminated, 2 of these with spare bearing organisms.

Throat swabs: 15 cultures were made from throat swabs. Organisms having the morphological and staining characteristics of Klebs-Loeffler's bacillus were recovered from 4. No virulence tests were carried out. The remaining 11 cultures were negative to this organism.

Cerebro-spinal fluid: Cerebro-spinal fluid was cultured on 7 occasions. In no case were pathogenic organisms grown. Wassermann's test was carried out 11 times on cerebro-spinal fluid with 9 negative and 2 positive results.

Syphilitic lesions of the central nervous system are not common in the Colony.

Bacterial Analyses of Water Samples: 207 samples were examined during the year at the request of various branches of the Sanitary Department and the Laboratory findings are indicated in the report of that Department.

Gelatin and Agar plates are inoculated for counting the total numbers of colonies developed on these media. The bacillus coli content is determined by inoculating 3 McConkey broth tubes with 10 c.c. 5 c.c. and 1 c.c. of the sample respectively. If the sample is known to be fairly free from bacterial contamination, 3 additional tubes are inoculated, each with 10 c.c.

It was hoped that the B. coli content could have been carried out in larger amounts, but this was found to be impossible owing to the large number of samples received. To have put up the 141 samples examined during the second half of the year in 100 c.c. amounts would have necessitated the preparation of a larger quantity of media than was possible in the time available.

The McConkey tubes are inspected at the end of 24 hours and all tubes shewing acid and gas formation (10%) are plated out on Rebipelagar. (These are regarded as presumptive positive for B. coli). At the end of 48 hours the remaining tubes are again inspected and those shewing acid and gas formation are similarly plated. (These are regarded as "doubtful" for B. coli.).

To distinguish between aerogerces and coli groups the Rebipelagar plates are inspected at the end of 24 hours and lactose fermenting colonies are sub-cultured on agar slopes and the growth examined. Organisms having the morphological and staining characteristics of B. coli group are further sub-cultured in dextrose-potassium-phosphate both for Voges and Methyl Red Reactions.

Animal Tests—At the request of and in collaboration with Dr. E. Joyce Isaacs, the Medical Director of the Tuberculosis Dispensary, an endeavour was made to determine the resistance of Tubercle Bacilli in sputum to drying for various periods of time.

The sputum was examined by Dr. Isaacs and the number of Tubercle Bacilli per oil immersion field roughly estimated. Thick smears were made on glass slides which were then placed in the sun. At the end of a certain interval the dried smear was scraped off and an emulsion was made in normal saline and immediately injected subcutaneously into the thigh of the hind leg of a guinea pig.

Altogether 4 guinea pigs were inoculated.

No. 1 received an emulsion of sputum (1 T.B. per slide) dried in sun for 15 minutes.

No. 2 received an emulsion of sputum (5-6 T.B. per oil immersion field) dried in sun for 30 minutes.

No. 3 received an emulsion of sputum (12-20 T.B. per oil immersion field) dried in shade for 30 minutes.

No. 4 received an emulsion of fresh undried sputum (12-20 T.B. per oil immersion field—same specimen as in No. 3).

None of the animals died or suffered any apparent loss of weight.

No. 1 was killed on December 18th, 26 days after inoculation. There were superficial ulcers in various stages of healing, scattered over the body. These were probably traumatic.

No. 1 and No. 2 guinea pigs were kept together for some time and they had probably been fighting.

No enlarged glands were found—no tubercles were seen on the spleen and under the microscope this latter again appeared normal.

The blood of this animal provided the complement for the Wasserman Reaction on December 19th.

No. 2 was killed on December 27th, 35 days after inoculation. An enlarged lymph gland was found in the left lumbar region. The spleen was enlarged and contained tubercles. Under the microscope both the lymph gland and the spleen were found to be tuberculous.

Nos. 3 and 4 were killed 3 weeks after inoculation. In both there were enlarged lymph nodes on the side inoculated. In both the spleen was enlarged and covered with white granulomata. In No. 4 (inoculated with fresh undried sputum) the spleen was more markedly enlarged than in No. 3 (inoculated with same sputum dried in shade for 30 minutes) also the liver in No. 4 was enlarged and covered with white granulomata. In all 4 pigs the lungs appeared normal. No. 4 was the only animal showing macroscopic abnormalities in the liver.

The experiments are being continued.

Routine Clinical Section.

Table 6 indicates the nature and the numbers of examinations carried out under this Section.

Table 6.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Blood examination of stained films for parasites	13	16	6	8	6	3	2	3	8	5	5	6	81
Erythrocyte counts ..	6	0	3	1	8	1	0	0	0	0	0	1	20
Lencocyte counts	5	3	10	5	11	4	2	0	0	0	0	1	41
Differential counts and examination of stained films	5	4	15	5	8	1	0	2	4	3	0	1	48
Estimation of Haemoglobin ..	7	0	3	1	8	1	0	0	4	0	0	1	25
Fæces; examination for ova of Helminths	82	58	50	31	41	96	82	49	52	70	43	13	667
Examination for Protozoa ..	1	1	3	2	3	1	0	0	2	1	1	0	15
Cerebro-spinal fluid all counts and examination of direct smears ..	1	2	0	1	1	0	3	0	2	0	1	2	13
Examination of smears of exudates, pus, etc.	14	4	14	8	11	6	10	11	5	16	6	3	108
Smears from chancres ..	0	0	0	0	0	1	0	0	0	0	0	0	1
Examination of smears made from sputum	19	25	26	16	39	44	30	23	27	39	36	28	352
Urinary examinations—													
General ..	168	130	134	127	129	180	190	200	195	210	167	180	2,010
Special (Quantitative) ..	12	42	27	19	21	12	13	16	5	0	6	1	174
Smears for S. pertenue (Years.) ..	0	0	0	0	0	0	0	0	0	2	1	0	3
Unclassified	1	0	2	0	3	0	0	0	0	0	1	0	7
Total ..	334	285	293	224	289	350	332	304	304	346	267	237	3,565

81 Blood films were examined for malaria parasites—9 were positive and 72 negative. It is not known whether any of the cases were under treatment. Malignant Tertian is by far the most frequently encountered type of parasite.

Table 7 shews the results of examination of fæces for Helminthic ova in detail.

Table 7.

——	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
No ova present	35	34	24	21	20	27	46	22	11	28	10	7	285
Ankylostoma	15	10	13	3	8	9	16	11	11	4	8	2	110
Ascaris	1	1	2	1	1	1	1	0	0	3	0	0	11
Tricociphalus	8	7	4	5	4	16	7	5	11	14	11	1	93
All Three	6	2	1	0	1	12	1	3	3	5	3	0	37
Other Ova	0	0	0	0	0	0	0	0	0	0	0	0	0
Ankylostoma and Ascaris ..	2	0	2	1	3	3	3	1	0	1	1	0	17
Ankylostoma and Tricociphalus ..	13	3	3	0	3	25	8	5	14	10	9	2	95
Tricociphalus and Ascaris ..	2	1	1	0	1	3	0	2	2	5	1	1	19
Total ..	82	58	50	31	41	96	82	49	52	70	43	13	667

Examination of fæces for Protozoa—It is unusual to receive fresh specimens of stool for these examinations, hence active amoebae are very seldom found.

Cerebro-spinal fluid—Counts and Smears: 10 smears were examined—no pathogenic organisms were found.

Examination of smears of exudate pus, etc.—Table 8 analyses the work carried out under this sub-section.

Table 8.

Specimens.	Organisms.																
	Meningocci.		Gonococci.		Organisms of Vincent's Angina.		Klebs-Loeffler Bacillus.		Tubercle Bacillus.		B. Lepræ.		Organisms of Ringworm.		Spermatoza.		Total.
	+	−	+	−	+	−	+	−	+	−	+	−	+	−	+	−	
Vaginal or Urethral Smears ..	..	..	15	55	..	..	..	..	..	..	..	..	..	..	0	15	85
Smears from Throat Swabs ..	..	..	..	..	5	3	0	2	0	1	..	..	..	..	..	..	11
Smears from Urinary Sediment ..	..	..	..	..	..	..	..	..	0	1	..	..	..	..	..	..	1
Smears from Chest Fluid ..	..	..	..	..	..	..	..	..	0	2	..	..	..	..	..	..	2
Smears from Wounds	..	..	..	..	..	..	..	..	0	1	..	..	..	..	..	..	1
Smears from Nose and	0	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Nodule Puncture ..	..	..	..	..	..	..	..	..	..	..	0	5	..	..	..	..	5
Skin scrapings ..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	..	..	1
Total ..	0	1	15	55	5	3	0	2	0	5	0	5	1	0	0	15	107

1 smear from a rat not tabulated is included in this subsection—making the total 108 as in Table 6.

352 specimens of sputum were examined for Tubercle Bacilli—97 were positive and 255 negative.

Smears from 3 cases of yaws were examined for S. pertenue. In one an enlarged subocciptal gland was punctured and the gland fluid examined. No organism was found (Fontana's, Leisbman's and Giemsa's stains were used). In the other 2 cases suitable ulcers were cleaned with alcohol and the clear serum obtained was filmed and examined (Fontana's, Leisbman's and Giemsa's). The specific organism was not found, but in both cases the organisms of Vincent's Angina were abundant. A large spirochete morphologically like S. refringens was also present in both cases and numerous eosinophiles were seen in these films. It would be desirable by means of the Wassermann Reaction to compare the curative values of Bismuth and Arsenic in cases of Yaws, and a comparison of the Wasserman Reaction and the Meinicke Turbidity Reaction in these cases might prove interesting.

Morbid Anatomy Section.

This section includes Autopsies, the preparation of tissues for microscopic section and the preparation of large portions of tissue or organs for museum purposes.

Table 9 indicates the number of Post Mortem examinations and portions of tissue prepared and sectioned.

Table 9.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Post Mortem Examinations	9	10	9	9	8	4	11	7	3	7	5	7	89
Tissues for Microscopic Examinations ..	14	14	9	7	11	11	12	7	4	8	1	5	103
Unclassified	0	0	0	2	2	0	0	0	0	0	0	0	4
Total ..	23	24	18	18	21	15	23	14	7	15	6	12	196

Post Mortem Examinations—39 Post Mortem examinations were performed at the instance of the Coroner and the causes of death are given below:—

Death due to Injuries resulting in—

Fracture of skull	3
Rupture of Spleen	3
Pulmonary Hæmorrhage	2
Contusion of Brain	2
Concussion	1
Fracture dislocation of neck	1
Fracture of Pelvis and Rupture of Bladder ..	1
Rupture of Liver	1
Septic Peutonitis	2
Rupture of Gut	1
Abdominal wall Hæmorrhage	1
Cut Throat	1
Meningeal Hæmorrhage	1
Death due to Gunshot Wounds	1
Burns and Scalds	6
Poison	1
Status Lymphaticus	1
Natural Causes	10
..	
Total ..	39

Tissues for Microscopic Section.—103 portions of tissue were examined microscopically—1 was received in bad condition—5 were tubercular, 28 were malignant and 69 were non-malignant.

Biochemical Section.

Table 10 indicates the nature and numbers of examinations prepared under this section.

Table 10.

	January.	February.	March.	April.	May.	June.	July.	August	September.	October.	November.	December.	Total.
Chemical Analyses of Blood ..	1	10	7	4	4	5	1	1	0	2	7	0	42
Examination of Fæces ..	3	0	0	2	3	1	1	1	0	0	0	0	11
Examination Cerebro-spinal Fluid ..	0	2	0	0	2	0	0	0	2	0	2	1	9
Examination of stains for presence of Blood	4	25	6	1	0	0	3	5	0	0	19	0	63
Gastric Analyses	2	1	0	2	0	0	0	0	0	0	0	0	5
Unclassified	0	0	2	1	1	0	0	1	0	0	0	0	5
Total ..	10	38	15	10	10	6	5	8	2	2	28	1	135

Medico-legal.—

1. Rape.—15 vaginal smears (included in Routine Clinical Section) were examined for Spermatozoa. All were negative.

2. Blood Stains.—63 specimens were examined for presence of blood stains. 33 were positive and 30 were negative.

Vaccine Section.

The following vaccines were prepared and kept on stock:—

1. T.A.B. Vaccine consisting of B. typhosus 1000 mills, B. paratyphosus A. 500 mills, B. paratyphosus B. 500 mills, per c.c. During the year 2,670 c.c. were issued to medical practitioners. To facilitate wide-spread inoculation against typhoid, T.A.B. Vaccine is issued free of charge.
2. 90% Gonococcus Vaccine.
3. Mixed Vaccine—composed of B. coli, Staphylocci, M. Catarrhalis, Streptococci, etc.

Altogether 1,075 c.c. of Nos. 2, 3 and 4 were issued during the year.

Antogenus Vaccines:—16 such vaccines were prepared during the year.

Revenue.

Table 11 shews the monthly receipts with corresponding examinations carried out at the request of private practitioners.

Table 11.

	Receipts.												
	£13 3 0	£13 17 0	£21 12 0	£ 4 17 6	£15 15 0	£ 5 19 0	£11 0 6	£10 14 0	£ 4 19 6	£ 6 19 6	£17 1 6	£13 11 0	£139 9 6
	Months.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Bacteriological Section—													
Agglutination Test for Enteric group ..	1	4	4	1	1	7	9	6	10	12	8	9	72
Agglutination Tests for Dysentery group	0	0	0	0	0	0	0	0	0	0	0	0	0
Wassermann Reaction ..	10	12	8	10	7	6	5	12	7	14	18	6	115
Unclassified Tests	0	0	0	0	0	0	0	0	0	0	0	0	0
Blood Culture	1	2	0	0	0	0	0	0	0	0	0	0	3
Fæces Culture	0	1	0	0	0	0	0	0	0	0	0	0	1
Cultures from Throat Swabs ..	2	0	1	1	0	0	0	1	0	0	0	0	5
Cerebro-spinal Fluid Culture	0	0	0	0	0	0	0	0	0	0	0	0	0
Wassermann ..	0	2	0	1	0	0	0	1	0	0	0	0	4
Bacterial Analyses of Water Samples ..	0	0	0	0	0	0	0	0	0	0	0	0	0
Unclassified Tests	2	0	2	0	0	0	0	0	0	0	0	0	4
Annual Tests	0	0	0	0	0	0	0	0	0	0	0	0	0
Routine Clinical—													
Examination of stained films for parasite	3	5	0	2	0	2	1	3	4	0	4	3	27
Erythrocyte Counts ..	1	0	0	0	0	0	0	0	0	0	0	0	1
Lencocyte Counts	1	1	0	0	0	0	0	0	0	0	0	0	2
Differential Counts and examination of stained films	1	2	0	0	0	0	0	2	0	0	0	0	5
Estimation of Hæmoglobin ..	1	0	0	0	0	0	0	0	0	0	0	0	1
Examination of Ova ..	1	3	2	0	2	4	1	1	0	1	0	2	17
Examination for Protozoa ..	1	1	0	0	1	0	0	0	0	0	1	0	4
Cerebro-Spinal Fluid Cell Counts and Smears ..	0	1	0	1	0	0	0	0	0	0	0	0	2
Smears made from pus and exudates, etc..	0	2	1	1	4	4	6	5	2	3	2	0	30
Smears from Chancres ..	0	0	0	0	0	1	0	0	0	0	0	0	1
Smears from Sputum for T.B. ..	2	3	2	1	3	0	9	3	6	4	0	4	37
Urinary Examinations—													
General	2	6	1	3	5	1	2	3	0	2	3	2	30
Special (Quantitation) ..	0	1	0	0	0	0	1	3	0	0	0	1	6
Unclassified Tests ..	1	0	0	0	1	0	0	0	0	0	0	0	2

Table 11—*contd.*

	Receipts.												
	£13 3 0	£13 17 0	£21 12 0	£ 4 17 6	£15 15 0	£ 5 19 0	£11 0 6	£10 14 0	£ 4 19 6	£ 6 19 6	£17 1 6	£13 11 0	£139 9 6
	Months.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Morbid Anatomy Section—													
Tissues sectioned and examined ..	0	1	2	0	0	3	1	1	0	1	0	1	10
Bio-chemical Section—													
Chemical Analyses of Blood ..	0	7	0	4	1	0	1	0	0	0	1	0	14
Examination of Fæces ..	1	0	0	0	0	0	0	0	0	0	0	0	1
Examination of Cerebro-spinal Fluid ..	0	1	0	0	0	0	0	0	0	0	0	0	1
Gastric Analyses	0	0	0	1	0	0	0	0	0	0	0	0	1
Unclassified	0	0	0	0	0	0	0	1	0	0	0	0	1
Total ..	31	55	23	26	25	28	36	42	29	37	37	28	397

Private practitioners are encouraged to send specimens to the Laboratory for bacteriological examination. These specimens are examined free of charge in cases where the Medical Attendant certifies that the patient is unable to pay. About 40% of requests for examination from private practitioners are accompanied by such certificates.

GEO. P. F. ALLEN,
Acting Bacteriologist and Pathologist.

Comparison of Wassermann Test and the Meinicke Turbidity Reaction in Syphilis.

During the latter half of the year an attempt was made to compare Meinicke's Turbidity Reaction with Wassermann's Complement Fixation Test in syphilis. Unfortunately sufficient clinical data were not obtained to enable one to draw any final conclusions. It is hoped, however, that in a subsequent series this defect may be overcome. Meinicke's Reaction has several advantages over Wassermann's Test, but its accuracy must first be proved before it can be regarded as a possible substitute for the latter in laboratory routine.

Meinicke's Reaction (M.T.R.) was applied by using the weak and strong extracts as supplied by the Adlorapotheke Hagen. In order to simplify the test equal parts of the two extracts were mixed together and then diluted with 3% saline. McIntosh and Fildes' modification of the Wassermann is routine in the Laboratory.

The series consist of 200 cases selected largely from the Venereal Clinic of the Kingston Public Hospital.

The results may be tabulated as follows:—

Table 1.

	M.T.R.	W.R.
Strong Positive	87	96
Weak Positive	33	17
Doubtful	6	12
Negative	74	75
Total ..	200	200

There was complete agreement in 143 (71.5%), partial disagreement in 22 (11%) and absolute disagreement in 35 (17.5%).

Table 2.—Absolute Disagreement.

	M.T.R.	W.R.
Negative	13	22
Doubtful	0	0
Positive	22	13
Total	35	35

We may further classify this table into (1) Contradictory results, where a strong positive Wassermann coincides with a negative Meinicke and vice versa, and (2) Divergent results where weak positive Wassermanns coincide with negative Meinickes and vice versa.

There were 20 contradictory and 15 divergent results.

Again tabulating these cases from the point of treatment, i.e., Intravenous Arsenic:—

Table 2a.

	Total.	Result.	M.T.R.	W.R.
No information with regard to treatment ..	16	N	6	10
		W.P.	7	1
		S.P.	3	5
No treatment given	13	N.	5	8
		W.P.	4	2
		S.P.	4	3
No provocative injection given	1	N.	0	1
		W.P.	1	0
		S.P.	0	0
Treatment given	5	N	2	3
		W.P.	3	1
		S.P.	0	1

It appears that under treatment the W.R. becomes Negative more quickly than does the M.T.R.

In 2 cases hæmolysis occurred after the W.R. had been done but before the serum for the M.T.R. had been separated from the clot. In both, the M.T.R. was Negative while the W.R. was Strong Positive in one and Weak Positive in the other.

In 4 cases the W.R. on repetition agreed with the first result obtained with the M.T.R.

In 23, no clinical report whatever accompanied the request for blood examination.

In the following 12 cases a few leading symptoms are given:—

	Symptoms.	Treatment.	M.T.R.	W.R.
1.	Defective Vision ..	Nil	−.−.−	S.P.
2.	Bubo ..	?	−.−.−	W.P.
3.	Vaginal Discharge and Pains	Nil	+.+.+	N
*4.	Persistent Headache (C.S.F.)	?	+.+.−	N
5.	Defective Vision	Nil	+.+.+	N
6.	Rash on face and shoulder	Nil	+.+/—.−	N
7.	Choroido-Rotinitis	Nil	+.+.+	N
8.	Lunatic ..	Nil	+.−.−	N
9.	Ulceration of Vulva	Yes	−.−.−	S.P.
10.	Vaginal Discharge and Pains	?	+.−.−	N
11.	Old Scar (Prisoner)	?	−.−.−	S.P.
12.	Vaginal Discharge and Joint Pains	Nil	−.−.−	W.P.

*The W.R. on the blood from this case was first negative becoming positive on repetition. The M.T.R. was +.+/—.—(W.P.)

Key to M.T.R. Results:—

Strong Positive +.+.+ (or +.+.+/—) Tubes with heavy sediment and water clear supernatant fluid.
Weak Positive +.+.− (or +.+/—.—) Compact sediment and fairly cloudy supernatant fluid.
Weak Positive +.−.− Scanty sediment and cloudy fluid.
Negative −.−.− Transparent fluid and no sediment. Cloudy fluid with no granulation or sedimentation.

Slightly Divergent Results—22.

Table 3.

	M.T.R.	W.R.
Negative	7	2
Doubtful	6	11
Positive	9	9
Total	22	22

Classified with regard to treatment.

Table 3a.

	Total.	Results.	M.T.R.	W.R.
No information with regard to treatment ..	10	N	4	1
		D	2	5
		W.P.	3	1
		S.P.	1	3
No treatment given	5	N	2	0
		D	1	3
		W.P.	0	1
		S.P.	2	1
One provocative injection given	2	N.	1	0
		D	0	2
		W.P.	1	0
		S.P.	0	0
Treatment given	5	N	0	1
		D	3	1
		W.P.	1	0
		S.P.	1	3

In 2 the W.R. originally Doubtful became Negative on repetition, agreeing with the M.T.R.

Results are regarded as slightly divergent when a Weak Positive W.R. coincides with a Strong Positive M. T. R. or vice versa, or when a Doubtful W.R. coincides with a Weak Positive or Negative M.T.R. or vice versa.

The results absolutely agree in ..	71.5%
They are contradictory in ..	10 %
Divergent in	7.5%
Slightly divergent in	11 %

In the absence of information with regard to symptoms and treatment no final conclusions can be drawn but it is noteworthy that in 6 cases in which there were divergent or contradictory results, the W.R. on repetition approached the original Meinicke results.

Further work is necessary before any evaluation of the accuracy of the Meinicke Turbidity Reaction can be made. At this stage, however, it cannot be regarded as a possible substitute for the Wassermann in our Laboratory routine.

GEO. P. F. ALLEN,
Acting Bacteriologist and Pathologist.

APPENDIX II.

Reports of Prison Medical Officers for year 1928.

GENERAL PENITENTIARY.

There were 1,319 prisoners admitted during the year: 805 males and 514 females, of whom 15 males and 10 females were in feeble health.

There were 1,188 prisoners discharged during the year: 687 males and 501 females, of whom 5 males and 2 females were in feeble health.

Eight deaths occurred during the period under review: 7 males and 1 female.

One hundred and fifty-five officers received treatment during the year.

The health of the prisoners and the sanitary condition of the Prison have been very satisfactory.

C. S. GIDEON,
Surgeon.

Return of Deaths, General Penitentiary, for year ending 31st December, 1928.

Name.	Sentence.	Age.	Colour.	Sex.	Whence Came.	Date of Admission.	State of health on Admission.	Date placed under treatment.	Date of Death.	Cause of Death.
1. Charles Miller ..	7 years	30 years	Black	Male	Kingston	7.1.24	In health	25.2.28	28.2.28	Angina Pectoris
2. Anita Robinson ..	1-6 year	16 „	„	Female	St. Elizabeth	22.12.27	„	1.3.28	2.3.28	Eclampsia (Child Birth)
3. Cleveland Gale ..	7 years	23 „	„	Male	Portland	20.8.24	„	13.2.28	16.3.28	Acute Mania and Exhaustion
4. Levi Green ..	½ year	21 „	„	„	„	31.12.27	„	25.4.28	8.5.28	Colitis
5. Ernest White ..	1 „	38 „	Brown	„	Kingston	23.11.27	„	22.4.28	6.6.28	Acute Nephritis
6. Arthur White ..	¾ „	24 „	Black	„	St. Mary	18.1.28	Feeble	10.3.28	2.7.28	Tubercular Adenitis
7. James Scott ..	2 years	37 „	„	„	St. Andrew	17.11.27	„	6.2.28	9.8.28	Morbus Cardis
8. Headman Burnett ..	¾ year	22 „	„	„	St. Mary	28.4.28	In health	17.7.28	14.9.28	Colitis

Return showing proportion of Sickness treated within and outside the Hospital to the number of Prisoners male and female, for the year ending 31st December, 1928.

	Male.	Female.	Total.
Daily average number in custody ..	655	72	727
Greatest number in custody on any one day ..	709	93	802
Daily average number of sick in hospital ..	46	5	51
Greatest number of sick in hospital on any one day	82	10	92
Daily average number of sick, treated outside of hospital	102	12	114
Greatest number of sick treated outside of hospital on any one day	221	11	232

Return showing General Medical Statistics for year ending 31st December, 1928.

	Male.	Female.	Total.
Number in custody on 1st January, 1928 ..	590	57	647
Received during the year	805	514	1,319
Discharged during the year	687	501	1,188
Daily average number in custody ..	655	72	727
Removed from Prison on medical grounds ..	3	1	4
Deaths	7	1	8
Removed to Lunatic Asylum	2	..	2

Return of Cases treated in the Hospital for the year ending 31st December, 1928.

	Male.	Female.	Total.
Infective Diseases—			
Influenza	185	7	192
Chicken Pox	2	..	2
Yaws	4	..	4
Ankylostomiasis	132	..	132
Mumps	1	..	1
General Diseases	161	35	196
Diseases of the Respiratory System ..	17	3	20
Do. do. Circulatory System ..	18	1	19
Do. do. Digestive System ..	118	9	127
Do. do. Genito-Urinary System ..	25	..	25
Do. do. Nervous System	21	1	22
Do. do. Connective and Muscular Tissue	90	..	90
Do. do. Eye	24	1	25
Do. do. Organ of Locomotion ..	2	..	2
Do. do. Ear	2	..	2
Do. do. Nose	1	..	1
Do. do. Bone	1	..	1
Do. do. Lymphatic System ..	19	2	21
Affections connected with Pregnancy ..	..	5	5
Diseases of the Skin	62	..	62
Injuries and Wounds	105	1	106
Total ..	990	65	1,055

ST. CATHERINE DISTRICT PRISON, SPANISH TOWN.

State of Prison.—The sanitary condition of the Prison has been good. The method of sewage disposal adopted during the year preceding is still being carried out and the results have been satisfactory.

Health of the Prisoners—The general health of the prisoners was good. Toward the end of the year there was an increase in the incidence of malarial fever. During the year 372 cases of malaria were treated in hospital. This represents 51⅔% of the total number of admissions to hospital. Should the incidence of this disease be ever efficiently controlled then the morbidity as far as the Prison is concerned would be almost negligible.

Ten cases of typhoid occurred. This showing is not as satisfactory as last year's. Were more care and attention given to the washing of hands after handling bowel filth, and before partaking of meals, the incidence of the disease among the prisoners may be somewhat reduced. There were 7 deaths from natural causes during the year and 4 executions. The mortality (excluding executions) based on the daily average number of prisoners in custody works out at 14.02 per 1,000.

The Health of the Prison Officers.—64 officers were treated during the year. The majority for malarial fever. The *Quarters* on Burke Road occupied by the Superintendent should be screened against mosquitoes without delay. There has been much sickness in his family during the year due almost entirely to malarial fever, and unless all known precautions be taken, continued residence in this locality will be always fraught with great danger to their general health, and even to their lives.

Improvements.—No improvements were effected during the year.

H. H. BLAIR,
Surgeon.

Return showing the following for year ending 31.12.1928.

a. (1) Mortality from Execution	4		
(2) do. natural cause	7	.. ..	11
b. Insanity			4
c. Removal on medical grounds			Nil
d. Suicide			Nil
e. Cases treated among prisoners in hospital			720
f. Number in custody 31.12.1928.			557
g. Received during 1928			2,967
h. Daily average in custody			499
i. Death per 1,000 calculated on the daily average in custody ..			1,402
j. Cases treated in Prison during 1928			1,627
k. Greatest number in custody any one day			560
l. Discharged during the year 1928			2,899
m. Number of officers treated in the Prison during 1928 ..			64
n. No. of prisoners received in feeble health during 1928 ..			27
o. No. of prisoners discharged in feeble health during 1928 ..			31
p. Daily average of sick in hospital during 1928			23
q. Daily average of sick treated outside hospital during 1928 ..			57
r. Greatest number of sick in hospital any one day during 1928 ..			36
s. Greatest number of sick treated outside hospital any one day during 1928			121
t. No. of cases treated outside hospital during 1928			907

H. H. Blair,
Surgeon, St. Catherine District Prison.

Cases treated during year 1928.

Disease.	Cases treated in Hospital.	Out-patients.
Enteric Fever	10	..
Malarial Fever	372	103
Measles	..	1
Chicken Pox	..	1
Gonorrhœa	6	46
Syphilis	26	7
Chancroid	3	12
Yaws	3	12
Anæmia	9	..
Chigoes	..	6
Ankylostomiasis	10	3
Ascaris	..	1
Rheumatism, Chronic	2	5
Debility	15	12
Diseases of Digestive System ..	60	247
Do. Connective Tissue ..	62	221
Do. Urinary System ..	18	7
Do. Circulatory System ..	8	..
Do. the Eye	7	7
Do. the Ear	..	3
Do. Male Generative Organs ..	14	16
Do. Lymphatic System ..	12	17
Do. Respiratory System ..	17	12
Do. Muscular System ..	3	1
Do. the Skin	6	19
Do' Nervous System ..	8	9
Do. Bones and Joints ..	3	4
Injuries	42	131
Malingering	4	4
Total ..	720	907

There were 373 inmates treated in the hospital during the year.
The chief diseases encountered have been:—

Influenza	115 cases
Dysentery	40 cases
Ulcers	33 cases
Chicken Pox	24 cases

105 inmates were treated for intestinal parasites, and 38 were inoculated with typhoid vaccine.
24 minor operations were performed.
The mortality nil.

R. H. Davidson,
Medical Officer.

Description.	Boys.	Girls.	Total.
No. of cases remaining in hospital 1st January, 1928	8	3	11
No. of cases admitted during the year 1928	317	45	362
No. of patients discharged, relieved or cured 31.12.28 ..	320	42	362
No. remaining 31.12.28	..	..	11
No. of patients treated from 1.1.28 to 31.12.28	327	46	373

Diseases.			
Infectious—			
Influenza	115		
Parotitis	1		
Chicken Pox	24		
Dysentery	40		180
Diseases of the Respiratory System		10	
Do. do. Digestive System		9	
Do. do. Urinary System		1	
Do. do. Lymphatic System		6	
Do. do. Bones and Articulation		7	
Do. do. Nervous System		1	
Do. do. Injuries		27	
Do. do. Skin		37	
Do. do. Connective Tissue and Muscle ..		17	
Do. do. Circulatory System		3	
Do. do. Male Generative Organs		1	

Daily average of Boys and Girls dressed during the year 1928.

Months.	Boys.	Girls.	Total.
January	25	2	27
February	35	5	40
March	43	4	47
April	36	3	39
May	53	3	56
June	63	3	66
July	66	2	68
August	53	1	54
September	64	..	64
October	45	2	47
November	35	4	39
December	33	2	35
Total	551	31	582

Boys and Girls detained for 1 or 2 days in Hospital for any minor injury and not entered in the Admission Books.

Boys	258
Girls	42
Total	300

Largest number of patients in Hospital any one day during the year 1928.

23rd October, 1928	62 Boys
1st October, 1928	18 Girls

Industrial School, Stony Hill, Dental Return for year 1928.

Number of Visits paid—51.

WORK DONE.

Description.	Quantity.	Remarks, if any.
T eth extracted	174	The dent l condit'on of the Institution has shown marked improve ent but there is still a considerable amount of work to be done.
Superfic'al decay removed	46	
Cavities treated with Agrio 3	7	
Zinc Oxide treatment	2	
Root fillings	8	
Teeth cleaned	49	
Cement fillings	14	
Gutta percha fillings	32	
Nerve removed	4	
Silver fillings	776	
Tartar removed	36	
Root treatments	12	
Gingivitis treated	28	
Total ..	1,188	

F. L. ARIS,
Dental Surgeon.

APPENDIX III.

PUBLIC HOSPITAL, KINGSTON.

Tables I and II show the number treated during the year with results, the total number being 5,617 of which number 301 were still in hospital at the end of the year.

The total number of deaths from all causes was 540, viz.: 289 males and 251 females.

The average number of beds occupied daily amounted to 300—males 178, females 122.

Table III gives the number of deaths occurring within 12—24—48 and 72 hours after admissioon. It may be noted that the deaths within these hours are nearly half of the total death rate for the year.

Table IV gives the number of medical and surgical cases treated during the year with results.

1,892 surgical operations on in-patients were performed under general anaesthetics.

One death occurred under a general anaesthetic due to Status Lymphaticus.

Table V shows the number of prescriptions dispensed for the Out-Patient Department, the Constabulary, etc. During the year 396 motor car accidents were brought to the hospital.

Lectures have been given to Senior and Junior Nurses by the Medical Staff.

At the final examinations, 13 Nurses passed and obtained Certificates.

The usual visits were made by the Official Board of Visitors. The patients are grateful to those who during the year sent books, magazines and flowers, etc.

The work of the hospital has been carried out in a satisfactory manner through the loyal assistance and co-operation of the entire staff.

I beg to draw your attention to the inadequate accommodation in proportion to the number of patients applying for admission to the hospital.

Several of the Wards are totally unsuited both from a Surgical and a Nursing point of view, especially taking into consideration the increase in the number of surgical operations—the increase this year being 222.

An increase of 9,753 patients were treated in the Out-Patient Department.

A. S. WESTMORLAND,
Senior Medical Officer.

Public Hospital, Kingston, year 1928.

Table I.

	Males.	Females.	Total.
Patients remaining in hospital, 1st January, 1928 ..	185	116	301
Patients admitted during the year 1928	3,183	2,133	5,316
Total patients treated	3,368	2,249	5,617
Of these were cured	1,470	1,021	2,491
Of these were relieved	1,195	680	1,875
Of these were not relieved	241	185	426
Of these died	289	251	540
Remaining in Hospital, December 31st, 1928 ..	183	102	285
	3,378	2,239	5,617

Table II.

Daily average number of beds occupied by male patients	178	
Daily average number of beds occupied by female patients	122	
Average stay in days of those who died—males	11.06	
Average stay in days of those who died—females	10.07	
Average stay in days of males discharged	24.04	
Average stay in days of females discharged	23.42	
Average stay in days of males remaining at end of year	29	
Average stay in days of females remaining at end of year	23	
Longest stay of any one patient in hospital	1193	days

Table III.

Patients who died within the following hours after Admission.

	12	24	48	72	Total.
Male.	54	55	23	10	142
Female.	48	42	16	17	123
	102	97	39	27	265

Table IV.

Diseases.	No. of Cases.	No. of Died.
Abscess	145	7
Alcoholism	8	..
Anæmia	6	..
Appendicitis	71	7
Accidents (Motor cars)	86	9
Ailments (Minor)	50	1
Cellular Tissue	26	2
Cardio-renal disease	134	51
Dementia	2	..
Dysentery	140	35
Diabetes	11	..
Debility	6	..
Diseases of the Liver	12	6
Diseases of the Skin	10	..
Diseases of the Glands	24	..
Diseases of the Brain	41	22
Diseases of the Nervous System	61	3
Diseases of the Arteries	6	..
Diseases of the Ear	19	1
Diseases of the Eye	132	..
Diseases of the Throat	26	2
Diseases of the Joints and Bones	55	..
Epilepsy	10	1
Eclampsia	5	3
Fever	287	3
Fever Enteric	396	104
Malarial	151	4
Fistulæ	8	1
Gonorrhœa	407	5
Diseases of the Generative Organs (female) non-venereal	215	19
Diseases of the Generative Organs(male) non-venereal	161	2
Tumours (malignant)	91	7
Tumours (benign)	96	9
Hysteria	7	..
Hookworm	20	1
Intestinal obstruction	13	12
Herniæ	51	6
Jaundice	13	1
Local injuries ulcers and wounds	423	15
Pellagra	11	1
Pneumonia	128	43
Abortions	47	5
Poisons	3	2
Pulmonary tuberculosis	97	28
Rheumatism	11	..
Talipes	3	..
Tetanus	7	4
System-Digestive	255	56
Respiratory	283	7
Lymphatic	66	1
Urinary	128	19
Muscular	22	..
Syphilis	635	14
Syphilis (congenital)	25	10
Sequelæ (venereal)	80	2
Yaws	9	..
Total	5,235	531

Table V.

No. of patients treated with tickets from authorised persons	1,041
No. of Prescriptions for above	7,415
No. of Casualty patients treated without tickets	69,556
No. of Prescriptions for above	30,255
No. of Prescriptions for Constabulary	384
No. of Minor operations in Out-Patient Department	3,123

Table VI.

Countries.	No.
Africa	4
America	12
Assyria	1
Australia	1
Barbados	2
Belgium	3
Bahamas	2
China	13
Canada	3
Cuba	5
Cayman	2
Denmark	4
England	39
Germany	10
Grenada	1
India	40
Ireland	3
Italy	1
Jamaica	5,160
Norway	5
Scotland	1
Spain	1
Sweden	1
Trinidad	2
Total	5,316

Table VII.

Parish.	No.
Kingston	3,661
St. Andrew	1,434
Port Royal	15
St. Thomas	32
Portland	9
St. Mary	20
St. Ann	11
St. James	3
Trelawny	6
Westmoreland	1
St. Elizabeth	7
Manchester	9
Clarendon	13
St. Catherine	32
Hanover	..
Foreign	63
Total	5,316

Report of Dental Surgeon, Public Hospital, Kingston for 1928.

No. of Patients attended	4,256
No. of Extractions	5,033
No. of Mouth Washes given	180
No. of Treatments	4
No. of Cleanings	2
No. of Removal Necro Process	1
No. of Minor operations	20

S. C. DePass, D.D.S.
Dental Surgeon, Public Hospital, Kingston.

APPENDIX IV.

Report of the Lunatic Asylum for the year ended December, 1928.

On December 31st, 1928, there were 1,607 patients in the Asylum, whilst on December 31st, 1927, there were 1,590, showing an increase of 17 in total population. The daily average number resident was 1,583.23. The total number treated was 2,035.

Admissions.—During the year 433 patients were admitted: of these 214 were males and 219 females. There was one birth, a male child.

Discharges.—Total number 280 divided as follows:—

Discharged recovered, 107 males and 80 females, a total of 187.

Discharged relieved: 30 males and 61 females, a total of 91.

Discharged not improved: 1 male and 1 female.

Escaped: 4 males and 1 female.

Recaptured: 4 males and 2 females.

(One of the two females captured in 1928 was still at large on 31st December, 1927).

The reason for the increase in the number of patients discharged relieved is that it has been found that most patients who have had previous attacks are very liable to genuine relapses or to get again into the hands of the Police, unfortunately in many cases for slight cause such as singing in the street, and being perhaps somewhat talkative. It is the policy of the Asylum to keep no patient under control if there is any reason to think that they can be looked after at home. Such a policy helps to keep down the total Asylum population and is just to the patient. It is regretted that there are grounds for thinking that the relatives and friends of some cases who are discharged are only too ready to get relatives returned to the Asylum.

While reporting upon the admissions and discharges, I beg to suggest that certifying Medical Officers in many cases should be asked to improve upon their wording of Certificates and that special attention should be given to that part of the Certificate which concerns "facts communicated by others."

4 men and 2 women were sent to the Public General Hospital for surgical treatment. Of these 3 men and 2 women returned to the Asylum and one man died there.

The percentage of recoveries calculated on the number of admissions is 43.18.

Deaths.—Total number of deaths was 137, 61 men and 76 women. The percentage of deaths calculated on the average number resident is 8.65. The principal cause of death was pulmonary tuberculosis.

In the case of thirteen men the cause of death was Dementia Paralytica.

Suicides—None.

Accidental—2, both epileptics, who had fits while at meals and died from choking in spite of immediate and prompt medical attention.

There are several very homicidal cases in the Asylum and many attacks of violence have occurred against staff and patients. Fortunately none resulted fatally.

Post Mortem examinations were held in all cases of death when cause of death was not definite before decease. In all 67 Post Mortem examinations were conducted.

Principal Causes of Insanity.—Records again show that the main causes are heredity and adolescence. The belief that consanguinity of parents is a principle cause has been strengthened. There are also strong grounds for the belief that street preaching, revival meetings and religious practices in general, cause considerable emotional disturbance among the uneducated classes in the Island.

In as far as possible the Wassermann Reaction has been carried out in the case of every admission with the result that out of 330 cases so examined 117 (or 35%) were positive, 194 negative, and 19 doubtful. Unfortunately for a certain period of the year proper tubes for the taking of blood were not available which fact spoilt records. Another research carried out has been a universal test for tuberculosis with the exception that a few cases suffering with acute phthisis had to be left out and a small number of patients whose mental state did not permit of such examination. This work was carried out by Dr. Joyce Isaacs under the auspices of the Tuberculosis Dispensary of the Rockefeller Foundation. Out of 696 female and 593 male patients examined by the Intradermal Tuberculin Test, Koch O. T. Tuberculin being used, 657 women and 579 men were found to give a positive reaction, a percentage of 97 in each case.

Routine Worm treatment is exhibited in the case of all admissions. Ascasis Lumbricoides is fairly common, but no cases of ankylostomiasis were discovered. There have been no clinical cases of Frombosia.

Board of Visitors.—The Board met on three occasions during the year. Several members visited on other occasions but it must be mentioned that a greater number of visits by members would be appreciated.

The Asylum suffered a severe loss through the death of Mr. R. S. Gamble, a Member of the Board, who really and in a practical way, always showed a deep interest in the Institution. He is greatly missed by patients and staff. The illness of His Lordship Bishop Dinand, S.J., V.A. is also much regretted.

Buildings. New Works.—On the male side the reconditioning of the old "D" Ward has been completed, resulting in slight relief of the overcrowding of the Male Division. "D" and "N" Wards now form a section in which quiet working patients can be housed.

A very creditable effort to make a garden for producing flowers and vegetables in the airing court of these wards has been made by the patients and staff occupying same and is to be commended.

An entirely new kitchen has been built for the male division close to the dining hall. It is fly-proof, compact and well equipped with a good cooking range, coppers, sinks and water supply. The patients can now get hot meals and the difficulty of distribution and conveyance of food has been greatly overcome.

Part of the old kitchen has been converted into a tailor shop and proves more satisfactory than the old accommodation for such, which was a verandah in an open airing court.

Two new large drains for disposal of surface water and ward washings have been constructed and prove satisfactory. The awful stench arising from the old drains and the general insanitary state of affairs in this respect has been done away with.

A new bath room and new and modern lavatories with proper means for cleaning commode tins, etc. have been built at the existing Infirmary Ward.

A new lavatory has been built at "M" Ward outside the ward replacing the old and disgusting latrine which was inside the dormitory.

New locks have been fitted throughout much of the Male Division, and the system of locks is similar to that adopted by the London County Council in their Asylums. All locks with the exception of a few single rooms are now standardised.

The old Isolation Ward is being thoroughly reconditioned and converted into an Infirmary Ward; a new special ward for phthisis cases is being built attached to same. When complete this section will contain a ward for the treatment of acute medical and surgical cases and a specially fly-proof side ward with separate sanitary arrangements for dysentery cases. A small room where surgical operations can be performed is included. A bath for continuous hot bath treatment when required for mental cases is installed, also a ward kitchen.

Several other minor improvements and considerable repairs to buildings have been carried out. It must be pointed out that, in spite of increased accommodation in the Male Division and many improvements, there is still overcrowding.

There is no proper accommodation for private and contributing patients who at present have to mix with ordinary patients. It has been recommended that a special block be built for private patients, and if this is done the relief from overcrowding will be tremendous provided that there is no great increase of insanity among the male population of the island.

There is as yet no proper lavatory accommodation for the Male Nursing Staff and only a very poor Rest Room.

All these matters have been put forward for consideration and remedy by the Government.

Female Division.

An entire new Infirmary Section consisisting of a new main ward for fifty patients, including among other items an Operating Room, a Ward Kitchen, bath for continuous hot bath treatment, is being built. In connection with the above a Phthisis Ward is being built and part of an old ward converted into a ward for dysentery cases.

It was hoped that these wards would be complete before December 31st, 1928, but they will be finished by March 31st, 1929.

This section is being equipped entirely on hospital lines as regards furniture and the sanitation is modern.

The main kitchen has been made in as far as possible fly-proof and the ceiling cleaned.

A considerable amount of painting has been done in this division.

A small Rest Room with proper lavatories, kitchen, etc., attached is being erected for the Female Nursing Staff. This should be completed before the end of the financial year.

The flooring of the dining shelter in "B" Ward has been relaid.

New and standard locks have been installed throughout the division as on the male side.

A bungalow is being built for the use of a certain private patient by her relatives, within the Asylum grounds; this, on an agreement that the building becomes the sole property of the Government on the decease of the patient.

Again, I must state that, in spite of the new ward, the overcrowding in this division is appalling, and more marked than on the male side. With the exception of the Annex which only accommodates 10 private patients, there is no proper accommodation for private patients.

A block for the use of private patients is urgently required and has been asked for, and at least one more large ward for ordinary patients will have to be built in the near future.

Fire Appliances.—Hand fire appliances have been installed throughout the Institution in wards, stores, etc., with a central Fire Station with as complete a fire fighting and life-saving equipment as possible installed in each division.

A large Chemical Fire Engine has also been provided.

A male attendant is specially detached to be in charge of this Department under the Chief Attendant and there is always a Picket detailed for duty in case of fire.

It must be mentioned that the water supply is likely to be of doubtful quantity in case of fire, the pressure in the mains being very poor. Two special Fire Alarms connected directly with the Central Station of the Kingston Fire Brigade have been installed, one in each division.

I have to thank Mr. Graham, Superintendent Kingston Fire Brigade, for his great help and his interest over this question of fire protection.

Sanitation.—In many parts of the Asylum the lavatories are obsolete, indecent and insanitary and the drainage system leaves much to be desired, and this will have to be remedied by the installation of many new lavatories.

The water supply is very poor but it is hoped that when the new mains to be laid by the Kingston and St. Andrew Corporation are laid down conditions will be much better. A scheme for a subsidiary water supply for sanitation purposes has been submitted to the Government.

During the coming year a central Disinfecting Station will be erected. A steam disinfecting apparatus is provided but not as yet installed.

Water Supply.—This, as previously mentioned in this Report, is poor, owing to the poor supply from the mains of the Kingston Corporation: at times some wards have not enough water for cleansing purposes. It is understood that the Corporation will be laying larger mains in this district and that such will cause great improvement in our supply. A scheme for an internal subsidiary water supply by means of wells, pumps and water towers has been put forward to the Government.

In several of the female wards and in all new wards throughout, means for patients obtaining drinking water at night have been provided by means of drinking fountains or taps instead of the old water bucket system.

Laundry.—The present laundry is quite inadequate to deal with the amount of work that has to be done. About nine thousand articles, clothing and bedding, etc. have to be washed per week and every one of these has to be dealt with by hand. Proper laundry machinery has been asked for, and it is sincerely hoped that such will be forthcoming during the next financial year.

Stores and Offices.—The existing Stores and Office accommodation is entirely inadequate and inconvenient. Stores being situated as they are at the Male Division and therefore about half a mile from the Female Division, great inconvenience is caused over conveyance of supplies to the latter section of the Asylum, and much labour and time expended which could be usefully employed otherwise. Also the present conditions are conducive to loss and wastage.

The fact that the Main Offices are at the Male Side also adds greatly to the work of administration and proper central control.

The present Stores consist of a series of small rooms and are quite inadequate for dealing with the quantities of provisions, clothing, bedding, hardware, which have to be accounted for and handled.

A request for new and central Stores has been put forward and it is hoped that this urgent matter will receive immediate attention.

It is nigh impossible for the Administration Staff to carry out their duties efficiently under existing conditions, and there is reason to be thankful that Clerical work and Stores Administration has been carried on as efficiently as it has been in the past.

Telephones.—A telephone has been installed at the quarters of the Second Assistant Medical Officer. Authority to put a telephone into the new Female Ward has been granted but awaits completion of the ward.

Officers' Quarters.—As previously reported it is again stated that the quarters of the Third Assistant Medical Officer are dilapidated. Proper quarters for this Officer are a crying need and the building of new quarters has been requested. New quarters when built should be equipped with a telephone.

Farm and Grounds.—The springing up of small gardens in various parts of the grounds and the conversion of the old paddock to south of 'A" Ward, Female Division, has provided much beneficial occupation for patients, some female patients show equal interest to the men in such occupation, and gardening is being encouraged. Garden produce is mainly disposed of through the Canteen.

Waste water from laundry and from washing down of wards, etc. is being used for irrigating gardens.

Owing to heavy rains and heavy motor traffic through the grounds, the latter in consequence of

conveyance of building materials, the roads in the grounds are not in good condition, but this will be remedied during the coming year.

New entrance gates have been made and fitted to the two entrance gates on Windward Road; this work was well done by the Artizan Staff assisted by patients. The main entrance gate has been reconditioned by the Public Works Department.

Sheep.—The sheep did well considering the drought. A new ram was purchased with good results. The flock consisted at end of year of 126 sheep, and 39 lambs, 165 in all.

Silk Worms.—Unfortunately the first attempt at raising silk worms failed: mulberry trees did fairly well, but disease attacked the silk worms.

Occupation of Patients.—In all about 500 male patients are employed in various occupations. Carpentering, tailoring, in the Tinsmith shop, as masons, in gardens and grounds, etc. Any patient fit for work is employed, if skilled, at his particular occupation, if unskilled, on unskilled work. Broom and mat making have been started.

Female patients work in the laundry, sewing room and kitchens; many do house work in the Female Wards. Miss Tyler, the Matron, has completely reorganized the sewing room with the happy result that it is truly a recuperative work room and also of much benefit to the Institution in that all women garments, men's shirts and night shirts, all sheets, pillow cases, mattress covers, etc., also uniforms for Female Staff are made here. In addition, the amount of work done in the way of repairing garments, etc. is very great. An average turn out for a week's work is 360 new garments or articles of bedding. Miss Tyler has also encouraged a number of patients to occupy themselves in fancy needlework and also in basket making.

Employment such as collecting Divi-Divi and other unskilled labour is encouraged amongst the unskilled.

Many patients especially male side enjoy ground parole and it is a pleasure to report that in no case has such privilege been abused.

Amusements of Patients.—An excellent supply of books, magazines and papers have been gratuitously provided, Dr. B. M. Wilson and Mrs. Wilson, Miss May Thompson and Major T. Dixon being the principal donors and many thanks are due to them.

The annual Sports Day, held on May 31st, was a great success, many friends of the Asylum giving handsome prizes and also coming in person for the event.

Special Christmas Day festivities were provided and again numerous friends gave generous gifts.

Cricket, concerts and dancing have been the principal forms of amusement whilst numerous games have been provided in the wards.

Sea bathing is as usual much appreciated and in this connection it must be reported that the sea bath has been renovated by the Public Work Depa tm n .

Church Services.—Regular Church of England services are held every Sunday; a new departure is the introduction of the celebration of Holy Communion on the last Sunday of each month.

The wards are frequently visited by the Revd. Canon Ramson. A Roman Catholic Service is held once a month and the Revd. Father Semmes regularly visits the wards once a week.

Canteen.—This institution is proving a success under the energetic administration of Mr. R. R. Wynter, Clerk and Purveyor, and is now running on a profitable basis; part of the profits go to "Patients' Fund" and part to "Staff Amusement Fund," the staff being the principal patrons.

Staff.—The Medical Officers have again done their best to assist in carrying on the work of the Institution and all have evidenced keen interest in the attempt to bring the hospital in line with modern lunacy practice.

I must state that the work is very tiring and arduous for three Assistant Medical Officers and that the appointment of a fourth Assistant Medical Officer is a matter for special consideration. The efficient treatment of patients, and the keeping of medical records in a large institution such as this requires at least four Assistants if such is to be properly carried out. There is also scope for research work, generall clinical work in medicine and some surgery, all of which should be carried on in the Asylum. In addition the Assistant Medical Officers are expected to carry out training of the staff in Mental Nursing. I repeat that there should be four Assistant Medical Officers.

The Matron, Miss H. J. Tyler, has been of invaluable assistance: the whole atmosphere of the Female Division has changed for the better, both as regards care of the patients and discipline of the staff.

I must also mention the excellent work done by Mr. C. A. Carney, Chief Attendant, who has been indefatigable in the performance of his many duties.

The Clerical Staff and Storekeepers have been most diligent in the performance of their arduous duties especially in view of many new innovations emanating from the Auditor General's Department which have greatly increased their work.

With regard to the Subordinate Staff, all ranks, male and female, with few exceptions have rendered loyal and satisfactory service: there has been no case of cruelty or real neglect of patients.

At end nts—	Dismissed	1
	Resigned on account of ill health ..	1
	Died	1
Nurses—	Dismissed	1
	Resigned on account of ill-health ..	2

The Staff Amusement Club still continues to be appreciated. Monthly dances are held and these are enjoyed by the members.

Staff Training.—I am glad to report that several Attendants and Nurses availed themselves of the course of training inaugurated. An examination in the preliminary subjects relative to Mental Nursing was held during the year, the results of which were as follows:—

Out of 37 Candidates, 17 Nurses and 12 Attendants satisfied the Examiners thereby passing the the examination.

Among those who sat for the examination and passed, the standard of knowledge and education was exceedingly gratifying. Training for the final examination will commence in 1929 and a further course in preliminary work will also be afforded.

Expenditure 1928-29.—The amount authorised for meeting expenses, including Special Warrants for £1,893, was £45,610. The gross expenditure was £45,178 19s. 6d. Under this item it must be mentioned that there has been considerable increase above estimated expenditure for the year on account of increased prices of staple articles of diet, viz., meat and vegetables. This was unavoidable since when estimating for the Dietary Vote I had no knowledge of the cost of foodstuffs for 1928. It is impossible to submit anything but approximate monetary requirements for dietary under the present system, that is, estimates for the coming year have to be submitted by the previous December, and the Tenders Board does not meet until the beginning of the following year.

I also wish to report that neither the Medical Superintendent nor the Clerk and Purveyor see any samples submitted to the Tenders Board which are to be supplied to the Asylum and it is therefore impossible to know if supplies are up to standard.

I beg to also report that it is impossible for an Asylum to submit anything more than an approximate vote for clothing and bedding and this for two main reasons:—

(1) The destructive habits of patients.
(2) The increase in number of patients.

In 1928 some slight increase in expenditure has arisen by reason of patients being made more comfortable.

Visits.—His Excellency Sir Reginald Stubbs, Governor, accompanied by Lady Stubbs on Christmas day, much to the delight of all. The interest taken by His Excellency in the Asylum cannot ever receive sufficient appreciation.

Hon. A. S. Jelf, as Acting Governor.

The following Members of the Salaries Commission:—

Sir Thos. Roxburgh, Hon. D. T. Wint, Mr. J. M. Nethersole,

also Mr. R. S. Gamble, a Member of the Board of Visitors. All evidenced keen and sympathetic interest in the work done.

Dr. B. M. Wilson, S.M.O., has again paid several visits which resulted in much benefit for the Institution.

Mrs. Wilson has also again taken a lively interest in the Female Division. Such visits are of enormous value, and we should greatly appreciate if more ladies were interested.

In conclusion it must be remarked that much remains to be done to better conditions in this Asylum and it is hoped that such will result, the work of the Asylum be encouraged and those further improvements which have been put before the Governnment will receive sympathetic consideration in 1929.

R. W. Dale Hewson,
Medical Superintendent.

Table I.—Showing the actual Admissions, Re-admissions, Discharges and Deaths during the Calendar Year ended 31st December, 1928.

	Males.	Females.	Total.	Males.	Females.	Total.
In Asylum, 1st January, 1928 ..	..	..	..	774	816	1,590
Cases admitted—						
First admissions	168	138	306			
Not first admissions ..	46	81	127			
Captured	4	2	6			
Returned from Public Hospital	3	2	5			
Born	1	..	1			
Total cases admitted during the year	..	..	..	222	223	445
Total cases under care during the year	..	..	..	996	1,039	2,035
Cases discharged—						
Recovered	107	80	187			
Relieved	30	61	91			
Not improved	1	1	2			
Escaped	4	1	5			
Died	61	76	137			
Sent to Public Hospital for surgical treatment	4	2	6			
Infant died	..	..	..			
Total discharged and died during the year	..	..	..	207	221	428
Remaining in Asylum, 31st December, 1928	..	..	..	789	818	1,607
Average number resident during the year	..	..	..	773	810	1,583

TABLE Ia.—Showing the number of previous attacks among those admitted during the Calendar Year, 1928, distinguishing those attacks that have been treated to recovery and discharged.

Number of previous attacks.	Having had previous attacks.					
	All attacks.			Attacks followed by discharge or recovery.		
	Males.	Females.	Total.	Males.	Females.	Total.
Have had 1 previous attack	18	22	40	16	5	21
Have had 2 previous attacks	14	9	23	11	4	15
Have had 3 previous attacks	12	8	20	3	3	6
Have had 4 previous attacks	2	3	5	1	2	3
Have had more than 5 attacks	..	6	6	..	1	1
Unknown	..	4	4	..	2	2
	46	52	98	31	17	48

TABLE II.—Showing the Causes of Death among Male Patients during the Calendar Year, 1928, with the ages at Death.

	Under 20	20 and under 30	30 and under 40	40 and under 50	50 and under 60	60 and under 70	70 and over.	Total.
	M.	M.	M.	M.	M.	M.	M.	M.
Cerebro-spinal Diseases—								
Chronic Brain Disease	..	..	1	..	..	3	..	4
Cerebral Hæmorrhage	..	1	..	..	..	..	..	1
Maniacal Exhaustion	..	..	1	2	..	1	..	4
Epilepsy	..	..	2	2	2	..	..	6
Thoracic Diseases—								
Pulmonary Tuberculosis	..	5	5	..	..	..	..	10
Empyema	..	..	..	1	..	..	..	1
Pneumonia	..	..	1	3	..	1	..	5
Abscess of Lung	..	..	..	1	..	..	..	1
Abdominal Diseases—								
Bright's Disease	..	1	..	2	1	..	..	4
Dysentery	..	1	1	..	2	2	..	6
Cirrhosis of Liver	..	1	..	..	..	..	..	1
General Diseases—								
General Tuberculosis	..	1	..	..	..	..	..	1
General Paralysis of the Insane ..	..	1	3	5	4	..	1	14
Enteric Fever	..	2	..	..	1	..	..	3
								61

Table II.—Showing the Causes of Deaths among Female Patients during the Calendar Year, 1928, with the ages at Death.

	Under 20	20 and under 30	30 and under 40	40 and under 50	50 and under 60	60 and under 70	70 and over	Total.
	F.	F.	F.	F.	F.	F.	F.	F.
Cerebro-spinal Diseases—								
Chronic Brain Disease	..	..	1	2	1	1	..	5
Cerebral Hæmorrhage	..	..	1	1	1	..	1	4
Maniacal Exhaustion	..	2	1	..	..	..	..	3
Thoracic Diseases—								
Pulmonary Tuberculosis	2	8	12	2	2	2	..	28
Heart Failure	..	..	..	1	..	1	..	2
Pleurisy	..	..	..	..	..	1	..	1
Endocarditis	..	..	..	..	1	..	1	2
Pneumonia	1	..	..	5	2	..	1	9
Abdominal Diseases—								
Bright's Disease	..	1	1	..	3	..	..	5
Dysentery	..	1	..	..	..	..	..	1
Cystic Kidneys	..	..	..	..	..	..	..	..
Enteric Fever	1	..	..	..	1	..	..	2
Cirrhosis of Liver	..	1	..	..	..	..	..	1
Colitis	..	..	..	..	..	..	..	..
Carcinoma Intestines	..	..	..	..	1	..	..	1
General Diseases—								
General Tuberculosis	..	..	..	..	..	..	..	..
Senile Decay	..	..	..	..	..	..	1	1
Aneurism of Aorta	..	..	..	..	..	..	..	..
Arterio Sclerosis	..	..	..	1	..	..	..	1
Gen. Paralysis of the Insane	..	1	..	1	..	..	..	2
Septicaemia	1	..	2	..	..	..	..	3
Pellagra	..	1	..	..	..	..	..	1
Cancer of Breast	..	..	..	..	1	..	..	1
								76

Table III.—Showing the duration of the Disorder on Admission in the Admissions, Discharges and Deaths during the Calendar Year ended 31st December, 1928.

Class.	Admission.			Discharges.						Deaths.		
				Recovered.			Relieved or otherwise.					
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
First Class—First attack, and within 3 months on admission	104	128	232	66	58	124	10	38	48	30	52	82
Second Class—First attack, above 3 and within 12 months on admission	16	4	20	7	2	9	2	9	11	11	10	21
Third Class—Not first attack, and within 12 months, etc.	51	60	111	23	12	35	3	4	7	8	11	19
Fourth Class—First attack, or not but of more than 12 months on admission	18	6	24	4	4	8	9	3	12	5	3	8
Fifth Class—Congenital	4	1	5	..	..	..	2	..	2	..	..	..
Unknown	21	20	41	7	4	11	4	8	12	7	..	7
Total	214	219	433	107	80	187	30	62	92	61	76	137

Table IV.—Showing the probable Causes of Insanity in the Patients admitted during the Calendar Year ended 31st December, 1928.

Cause of Insanity.	Number of instances in which each cause was assigned. Number of Cases. Admissions—Males, 214, Females, 219, Total 433											
	As predisposing cause.			As exciting cause.			As predisposing or exciting where these could not be distinguished.			Grand Total.		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Moral—												
Domestic trouble (including loss of relatives and friends)	..	..	..	..	..	..	..	..	..	..	..	..
Adverse circumstances (including business anxieties and pecuniary difficulties)	..	..	..	1	..	..	..	..	..	1	..	1
Mental anxiety and worry (not included under above two heads) and over-work	..	..	..	1	8	..	..	..	..	1	8	9
Religious excitement	..	..	..	10	9	..	..	..	..	10	9	19
Love affairs (including seduction)	..	..	..	..	1	..	..	..	..	..	1	1
Physical—												
Intemperance in drink	..	..	..	4	..	..	..	..	..	4	..	4
Accident or Injury	..	..	..	..	..	..	..	..	..	..	..	..
Traumatism	8	1	9	..	..	..	..	..	..	8	1	9
Other bodily disease	..	..	..	..	..	..	..	..	..	..	..	..
Previous attacks	46	66	..	..	..	..	..	..	..	46	66	112
Hereditary influence	87	98	..	..	..	..	..	..	..	87	98	185
Adolescence	..	..	..	..	..	..	..	..	..	..	..	..
Epilepsy	7	..	..	..	5	..	..	..	..	7	5	12
Puerperal	..	..	..	..	2	..	..	..	..	..	2	2
Syphilis	..	..	..	..	15	..	..	..	..	..	15	15
Not known	14	..	..	..	..	..	..	..	..	14	..	14
Senility	10	10	..	..	..	..	..	..	..	10	10	20
Menopause	..	..	..	..	..	..	..	..	..	..	..	..
Ganga Smoking	..	..	..	3	..	..	..	..	..	3	..	3
Puberty	..	..	..	9	..	..	..	..	..	9	..	9
Tubercular Disease	..	4	..	..	..	..	..	..	..	..	4	4
Venereal Disease	15	..	..	..	..	..	..	..	..	15	..	15
Fevers	2	..	..	..	..	..	..	..	..	2	..	2
Congenital defect ascertained	2	..	..	..	..	..	..	..	..	2	..	2

Table V.—Showing the form of mental disorders in the Admissions, Recoveries and Deaths during the year and the form of mental disorder of the inmates on 31st December, 1928.

Form of Mental Disorder.	Admissions.			Recoveries.			Deaths.			Remaining in Asylum.		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
I. Congenital or Infantile Mental Deficiency (Idiocy, Imbecility) occurring as early in life as it can be observed	..	2	2	..	1	1	..	1	1	..	2	2
Intellectual—												
With Epilepsy	2	1	3	..	..	..	..	2	2	4	36	40
Without Epilepsy	..	..	..	2	..	2	..	..	..	8	..	8
Moral	..	..	..	7	..	7	..	..	..	..	..	..
II. Insanity occurring later in life—												
Insanity with Epilepsy	11	5	16	5	..	5	3	..	3	62	..	62
General Paralysis of the Insane	27	1	28	1	..	1	14	2	16	34	..	34
Insanity with the grosser brain lesions	..	..	..	..	..	..	2	..	2	..	..	..
Acute Delirium (Acute delirious Mania	6	2	8	..	..	..	4	..	4	..	..	..
Confusional Insanity	15	5	20	..	3	3	..	..	..	27	8	35
Stupor	..	1	1	..	..	..	..	..	..	..	..	..
Primary Dementia	19	49	68	12	12	24	..	13	13	9	135	144
Mania—												
Recent	46	78	124	17	47	64	7	23	30	56	275	331
Chronic	4	9	13	1	..	1	11	15	26	301	166	467
Recurrent	31	39	70	26	8	34	..	3	3	179	79	258
Melancholia—												
Recent	9	10	19	10	4	14	..	3	3	4	29	33
Chronic	1	2	3	..	..	..	6	6	12	38	..	38
Recurrent	3	..	3	7	..	7	1	3	4	..	..	..
Alternating Insanity	7	..	7	9	..	9	..	..	..	14	..	14
Delusional Insanity—												
Systematised	14	2	16	1	2	3	3	..	3	..	2	2
Non-Systematised	4	1	5	1	..	1	5	1	6	..	..	..
Volitional Insanity—												
Impulse	..	..	..	..	..	..	..	..	..	..	..	..
Obsession	..	1	1	..	..	..	..	..	..	..	..	..
Doubt	..	..	..	..	..	..	..	..	..	..	..	..
Moral Insanity	..	..	..	..	..	..	..	..	..	..	..	..
Dementia—												
Senile	12	4	16	8	3	11	5	..	5	40	18	58
Secondary or	..	2	2	..	..	..	..	4	4	..	61	61
Terminal	3	1	4	..	..	..	..	..	..	13	..	13
Neurosis—												
Neurasthenia	..	..	..	..	..	..	..	..	..	..	..	..
Anxiety Neurosis	..	1	1	..	..	..	..	..	..	..	1	1
Psychoneurosis—												
Hysteria	..	3	3	..	..	..	..	..	..	..	6	6
Psycasthenia	..	..	..	..	..	..	..	..	..	..	..	..
Total	214	219	433	107	80	187	61	76	137	789	818	1607

Financial Statement.

Table VI.—Cost of Maintenance for the year 1928-29.

	£	s.	d.
Salaries	4,252	6	11
Wages	13,222	11	9
Religious Services	60	0	0
Dietary	20,175	9	1
Uniform for Nurses and Servants	424	0	1
Furniture and Utensils	645	1	5
Clothing and Bedding	3,297	12	0
Drugs and Medical Appliances	519	11	0
Funeral Expenses	115	15	1
Travelling Expenses of Discharged Lunatics	102	19	6
Farm and Grounds and Repairs	300	6	3
Rent of Telephones	64	13	1
Washing and Sanitary Arrangements	512	19	9
Fuel and Lighting	648	12	0
Water Rates	505	0	0
Miscellaneous	291	14	2
Stationery	38	7	5
Installation of Telephones	2	0	0
	45,178	19	6

Less Reimbursements.

Contributing Patients	£2,698	18	4	
Miscellaneous Revenue	81	19	2	£2,780 17 6
Net cost to General Revenue				£42,398 2 0

Table VII.—Statement respecting Minor Funds of the Jamaica Lunatic Asylum to 31st March, 1929.

1.—Servants' Fine Fund.

	£	s.	d.
Balance on 31st March, 1928	228	11	0
Receipts in 1928-29	14	11	8
	243	2	8
Expenditure 1928-29	20	0	10
Amounts at Credit 31st March, 1929	223	1	10

2.—Patients' Fund.

(Including the O'Loughlin Bequest.)

	£	s.	d.
Balance on 31st March, 1928	2,166	11	5¾
Receipts in 1928-29	173	6	1½
	2,339	17	7¼
Expenditure during 1928-29	157	9	6½
Amount at Credit 31st March, 1929	2,182	8	0¾

Table VIII.—Shewing the Total Gross Cost, the Reimbursement-in-Aid of Expenses incurred by the Government and the net Cost of Lunatic Asylum to General Revenue.

Year.	Total Gross Cost.	Reimbursements. Contributing Patients.	Reimbursements. Miscellaneous Revenue.	Total Reimbursements in-Aid.	Net Cost to General Revenue.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1928-1929	45,178 19 6	2,698 18 4	81 19 2	2,780 17 6	42,398 2 0

Table IX.—A Return showing the General, Financial and other Operations of the Lunatic Asylum for the years, 1924-1925, 1925-1926, 1926-1927, 1927-1928 and 1928-1929.

Year.	Salaries and Religious Services.	Wages.	Dietary.	Uniform for Nurses and Servants.	Furniture and Utensils.	Furniture for Matron's Quarters.	Clothing and Bedding.	Drugs and Medical Appliances.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1924-1925	3,703 7 3	9,232 6 6	20,070 17 9	407 16 2½	315 10 10	..	2,857 17 9½	410 2 6
1925-1926	3,565 16 5	9,439 15 1	20,655 11 7	321 13 1	316 12 5	..	2,778 8 3	399 6 9
1926-1927	3,637 3 11	9,951 15 11	18,920 3 11	445 16 4	346 19 5	..	2,326 7 6	382 3 0
1927-1928	3,900 7 6	12,162 17 1	18,404 12 7	400 0 4	446 18 1	35 8 6	2,398 7 11	375 5 3
1928-1929	4,312 6 11	13,222 11 9	20,175 9 1	424 0 1	645 1 5	..	3,297 12 0	519 11 0

Year.	Funeral Expenses.	Travelling expenses of Discharged Lunatics.	Farm and Grounds and Repairs.	Rent of Telephones.	Washing and Sanitary Arrangement.	Fuel and Lighting.	Water Rates.	Miscellaneous.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d
1924-1925	83 10 0	51 16 7	324 15 4	24 3 0	535 10 0	1,316 2 2	500 0 0	38 8 11
1925-1926	77 15 0	54 19 2	297 15 7	22 8 11	495 1 0	1,388 11 2	500 0 0	42 10 7
1926-1927	129 10 2	74 8 0	235 7 3	24 17 5	419 5 6	932 19 4	500 0 0	56 12 6
1927-1928	99 12 9	95 13 5	235 3 9	48 13 0	435 2 7	759 2 7	500 0 0	299 13 2
1928-1929	115 15 1	102 19 6	300 6 3	64 13 1	512 19 9	648 12 0	505 0 0	291 14 2

——	Compensation for loss of Clothing.	Stationery.	Purchase of Live Stock.	Passage of Medical Superintendent.	Installation of Electric Light.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1924-1925	..	25 18 4	..	..	..
1925-1926	..	24 19 11	5 16 1	90 17 0	..
1926-1927	3 10 0	28 2 9	..	119 7 6	695 0 0
1927-1928	..	34 3 3	..	..	..
1928-1929	..	38 7 5	..	..	..

——	Fire Appliances	Passage of Matron.	Purchase of New Cart.	Installation of Telephones.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1924-1925	..	..	..	..
1925-1926	..	..	..	..
1926-1927	..	..	..	..
1927-1928	338 1 9	34 15 0	27 0 0	2 0 0
1928-1929	..	..	..	2 0 0

APPENDIX V.

Report of the Victoria Jubilee Hospital for the year 1928.

The number of patients admitted during the year was 1,375 against 1,283 of the previous year. Of this, 1,065 were black, 295 coloured, 12 white, 1 East Indian, 1 Red Indian, 1 Chinese; 1,241 of the patients were residents of Kingston, 116 St. Andrew, 18 of the other parishes.

There were 9 deaths during the year. Several of these were actually moribund on admission. The number of infants born was 1,268, of those 639 were males, 629 females, 88 were still-born, 50 of these were macerated. Of the 1,175 infants born alive, 26 were premature and 43 died.

18 Nurses were admitted for training during the year, 2 were found to be unsuitable and one failed to satisfy the Examiners and was sent down for three months. 13 were awarded Certificates.

We acknowledge with thanks the following most acceptable gifts:—weekly supplies of bananas from the Atlantic Fruit Company, a Christmas ham from Dr. Cameron, a turkey from Dr. Grabham, crackers and Christmas decorations from Miss McCarthy, two oil paintings for the Nurses Lounge, and 10s. from Mrs. Williams, Kew Cottage; a water colour picture for the Nurses' Lounge from Major and Mrs. Dixon, Billy Dunn. Our very special thanks are due to His Excellency the Governor and Lady Stubbs, to the Hon. Colonial Secretary and Mrs. Jelf and to the Hon. J. A. G. Smith, K.C., who kindly went through the Wards and cheered the patients up. Also to Dr., Mrs. and Miss Wilson and Mrs. Bourne whose help was invaluable at the Nurses' Christmas Dinner.

M. Grabham,
Acting Visiting Medical Officer.

Diseases and Complications affecting the Mother.

Abscess of Breast (two patients were admitted with abscess of breast)	4
Adherent Placenta	7
Albuminuria	500
Bronchitis	1
Chronic Mastitis	1
Dysentery	1
Dwarfs	2
Enlarged Spleen	1
Fever, Ephemeral	47
General Anasarca	1
Hour-glass Contraction	2
Hydramnios	3
Hæmorrhage Post Partem	16
„ Anti-partem	10
„ Accidental	4
„ Concealed	4
Inertia	3
Influenza	1
Malarial Fever	3
Miscarriage	21
Nephritis	3
Obstruction	1
Puerperal Convulsions	28
Placenta Prævia	7
Prolapse of Cord	5
Pelvic Abscess	1
Pneumonia	1
Pleurisy	2
Pernicious Vomiting	2
Perineorrhaphy	2
Puerperal Mania	2
Rigidos	1
Typhoid	3
Tuberculosis	1
Thrombosis	1

Synopsis of Cases.

Presentations—	
Vertex	1,233
Unreduced Occipito-posterior	4
Footling	11
Transverse	3
Brow	2
Face	2
Breach	24
Operations—	
Version	14
Application of Forceps	23
Curettage	23
Craniotomy	2
Embryotomy	1
For Ruptured Perinæum	96
Induction of Labour	2
Impacted Face	1
Retained Adherent Placenta	7
Venesection	11
Vesico-Vagina-Fistula	1
Diseases and deformities infecting the infant—	
Cephathæmatoma	1
Convulsions	2
Extra Fingers	10
For Umbilical Hæmorrhage	3
Hæmorrhagic Diathesis	6
Ophthalmia	46
Umbilical Hernia	1
Abscess of Ear	4
Club Toot	3
Double Hare Lip	1
Cleft Palate	2
Ascites Belly	4
Anencephalous Head	1

APPENDIX VI.

Lepers' Home, Spanish Town.

1. *Staff and Accommodation.*—Remains the same as in previous years. Inmates who are able and willing continue to be employed in various services.

2. *Conditions of Buildings and Grounds.*—All the buildings are in a state of disrepair and should be attended to as early as possible.

The grounds are in good order.

3. *Sanitary Arrangements.*—Dry earth bucket system, the contents are disposed of in pits daily.

4. *Drainage.*—The open surface concrete gutters are in need of extensive repairs, and the fall is very small. I would recommend that all the waste water be utilised for irrigation of the Farm, which would probably effect a saving on Irrigation Dues.

5. *Water Supply.*—The Spanish Town Water Supply, the quality fair, the pressure low.

6. *Dietary.*—As approved by His Excellency the Governor in December, 1927, a great improvement on the old Diet Scale.

7. *Accommodation for Patients.*—120 beds on the Approved Estimates.

Number of Patients—

Remaining in the Institution on 31.12.27: males, 56; females, 40; total 96.
Admitted: males, 9; females, 9; total, 18.
Discharged: males, 1; females, 0; total 1.
Died: males, 6; females, 5; total 11.
Average stay of those who died: 7 years, 5 months.
Average stay of those discharged: 5 years, 8 months.
Average stay of those remaining 31.12.28: 15 years, 8 months.
Death Rate per centum: 9.6.
Longest stay of any one inmate: 47 years, 10 months.
No East Indians were admitted during the year.
Remaining in the Institution 31.12.28: males, 58; females, 44; total 102.
Inmates under 15 years of age: males, 6; females, 3; total 9.

8. *Treatment.*—I have used Alepol during the year on 57 inmates of varying ages and types of the disease. Injections were given twice weekly to each case, except when the reactions were pronounced, then injections were suspended until reactions subsided.

Dosage used 1 c.c. working up to 5 c.c. Injections appear to be practically painless, and in a few cases there were abscess formations, due probably to the fact that cases admitted to this Institution are old cases, and in some instances, "Burnt out Cases." The result of the treatment with the above, has not been so satisfactory as I anticipated.

I have continued Anti-leprol Capsules and Sodium Hydnocarpate Tablets in other cases. The Sodium Hydnocarpate Tablets shows more advantage than the Anti-leprol Capsules, being more easily tolerated. I still find satisfactory results from this form of treatment.

9. My sincere thanks are due to the Lord Bishop of Jamaica and his sister, Miss DeCarteret, for their generous gift of Bed Jackets to the inmates and for their several visits to the Institution and interest in the inmates which is very much appreciated.

My thanks also to Deaconess Turner and Sister Beatrice, Nurse Clarke of St. George's Church and Miss Marvin for their several visits and kindly interest in the inmates.

My special thanks are due to Sister Beatrice and the friends associated with her in donating two bedsteads to the Institution, in memory of the late Miss MacGlashan, who devoted her life to the good of the inmates and who died some years ago. Our friends continue to supply the inmates with reading matter.

10. *Religious Ministration.*—Has been regularly carried out throughout the year by the Church of England, Roman Catholics and Salvation Army Authorities.

G. P. Campbell,
Medical Attendant.

APPENDIX VII.

Bumper Hall Corporation Hospital for Infectious Diseases.

In hospital January 1st, 1928: admitted 33, discharged 27, in hospital December 31st, 1928, 6.

Admissions.	1923.	1924.	1925.	1926.	1927.	1928.
Alastrim	199	182	312	172	2	..
Chicken Pox ..	20	32	31	49	116	23
Measles	..	19	9	40	1	..
Syphilis	5	7	10	12	5	3
Diphtheria	..	2	1	..	..	..
Pneumonia	..	1	..	..	..	..
Yaws	..	2	..	5	1	1
Whooping Cough ..	..	1	..	..	..	..
Ring Worm ..	..	1	..	..	..	..
Scabies	..	1	..	..	4	3
Insect Bites ..	..	1	..	..	..	..
Enteric Fever ..	1	..	..	..	..	..
Arsenical Dermatitis ..	..	..	1	..	..	..
Pulmonary Tuberculosis ..	..	..	1	..	..	..
Eczema	..	..	..	1	..	..
Under observation ..	4	16	15	15	1	3

No case of alastrim was admitted during the year.
No death occurred in the hospital.
As to vaccination: 27 had old marks, 6 had no marks.

Lewis M. Crooks,
M.O.H., St. Andrew.

APPENDIX VIII.

Report of Overseer of Works, Hookworm Campaign, for 1928.

Saint Ann.—Sanitation in the parish of Saint Ann, which was commenced in May, 1927, was continued under the supervision of the Central Board of Health Overseer up to the end of September, 1928. The areas originally decided upon by the Parochial Board and the Central Board of Health were (1) Bamboo-Saint Ann's Bay; (2) Claremont; (3) Ocho Rios-White River. In the first named area, with the exception of a small part westerly of Llandovery Estate, the whole of the St. Ann's Bay Division of the parish was sanitated, in a number of cases not quite up to the high standard which is desired and aimed at, but which, through the persistence of the Inspectors was in the main attained. The office was transferred to Claremont from St. Ann's Bay in April, 1928, from which centre this area was worked in conjunction with Ocho Rios. Time would not permit of very much being attempted at White River, a considerable portion of which, incidentally, consists of a sheet of hard rock, but the greater part of Ocho Rios and the surrounding districts were almost completed up to end of September. A few indigent people being assisted towards the end, and a number of people here and there had perforce to be left with latrines in advanced stages of construction, to be completed by owners under the supervision of a Follow-Up Officer. The north-eastern section of the parish, Ocho Rios, is largely poverty-stricken. In both areas, water, sand, lime and other building materials had to be headed or carted for several miles. The No. 2 Medical Unit commenced work in Claremont in October, and, taking a line southerly through Ocho Rios, Parry Town, Pimento Walk and Harrison Town, on through Beecher Town, Hinds Town, Epsworth, Golden Grove and Steerfield (the last five being quite completed) should find a good field in the districts named. Claremont area, due largely to good influence, notably in Pedro and Pedro River Districts, expanded beyond expectation, and without doubt very gratifying results were achieved through the hard work of the Inspectors and the response of the people, very little of the last named section being left incompleted—probably the south-western in York Castle and Prickly Pole (which was not touched) and a portion of Friendship. We also branched out to Retirement Roadside adjoining Moneague with only 19 homes and this was nearly completed.

Reference to the map of the parish might give some idea of the magnitude of the combined areas, but personal acquaintance with the country-side, and the general conditions—broken, rocky, hilly, and inaccessible are necessary in order to gauge the work put in by the Inspectors and the corresponding results. Probably in no similar previous campaign has it been known for householders to join hands and work by lamplight through the night to complete their sanitary conveniences, as was the case in Bensonton, Drumilly, Harmony Vale, Alderton and Friendship. A feature of the Sanitating Campaign which should be referred to as particularly applicable to Saint Ann has been the co-operation of Ministers of Religion in the difficult task of finding money to provide decent and adequate conveniences for the Church Schools under their charge, especially in view of the fact that subscribing church members had to find money to build their own sanitary conveniences at the same time. Splendid work has also been done by the Superintendent of Public Works in connection with the Public Buildings and Government Schools throughout the parish. In the town of St. Ann's Bay advantage was taken of the excellent water service to instal the flushing system, with absorption pits, at the various offices and buildings. In June an officer was placed at Runaway Bay and Salem for Follow-Up duty, visits being made by Dr. Hall and the Overseer, jointly and separately.

The services of the staff were promised to the St. Thomas Parochial Board in July, but it was only possible by extreme efforts to pull out of St. Ann at the end of September, leaving competent trained officers to complete work in isolated cases and to carry on in new districts.

In this connection reference should be made to the continued misunderstanding by Parochial Boards of the necessarily restricted limitations and the reasonable duration allowable for a demonstration campaign requiring the services of an officer of the Central Board of Health. In the case of the districts south of Claremont where surprisingly rapid results were obtained and with the influence spreading in many directions and also in and around Ocho Rios, the time was ripe to hand over to trained Follow-Up Officers which was done in September, but instead of allowing these officers to complete definite areas they were taken away to new districts at once, namely from Moneague, eastwards, thus breaking continuity of supervision where people had already become infused under the influence and pressure of the Inspector.

Saint Thomas.—Sanitation was commenced in the eastern division of the parish of Saint Thomas in October with a nucleus of two experienced Inspectors, to which were added three new men who had passed through the Training School under Dr. Strathairn. The new men who had hitherto been used to a sedentary life, adapted themselves to the more strenuous outdoor work of Hookworm Campaign Sanitating Officers. The Parochial Board has been unstinting in acceding to my request for officers, and a sixth one will shortly be appointed, making four in all to be drawn from the Training School for Sanitary Inspectors. These men show keenness to follow-up the advantages of the education received under Dr. Strathairn, and in due course should prove a valuable asset to the Health Department of St. Thomas or any Board.

The present campaign has been in progress for only 3 months and, considering the very high standard of construction aimed at and generally insisted upon, together with the individual high cost to each householder, the results for the period have been highly satisfactory. The conveniences being erected are expensive, and of permanent description requiring extraordinary sacrifice on the part of the people, one significant consequence being complaints from shopkeepers "that nothing is being spent with them." The structures are all placed on cement concrete or masonry foundations, white lime (which is cheaper) not being available. In Port Morant, Bath and Stokes Hall, many of the pits are lined throughout with concrete, and the foundation raised a considerable height above the ground, on account of soil and water conditions. No latrine is passed unless a small seat is provided for children. The area under supervision is as large as conceivably possible for 6 Inspectors to handle and completely sanitate within the space of time desired, and extends from Port Morant to Rocky Point on the coast, taking in all intervening districts up to Amity Hall, Hordley, Bath and Sunning Hill on the north, and including a few hill settlements north of Bath.

Difficulty is being experienced in connection with estate sanitation excepting, in the case of the United Fruit Co. The several properties of the Jamaica Company are unsanitated, but it is hoped that the management will remedy this early in 1929. The Barracks on the various estates and works of the Jamaica

Sugar Estates, Ltd., were equipped in the first instance with fairly good latrines, but of faulty design and inadequate in number and size. Sanitation has been allowed to drift to a very bad state, but the management are shortly to make improvements, towards which Dr. McLean of the United Fruit Co. is giving his direct personal attention. A quantity of galvanized roofing tiles from the old P.G. River Sugar Factory will be utilized to reinforce the sides of pits in certain localities where the soil and water conditions are unfavourable. This will tide over probably for about 2 years or 18 months when it can be expected that the Health Department of the parish will again have to direct attention to the same matters.

Rains have been falling since August and still continue, and a very few of the roads leading from the trunk roads into the districts being sanitated are now negotiable for wheel traffic, which greatly increases the difficulty of supervision and retards the transport of building material which all has to be conveyed either from Port Morant, Morant Bay, or Kingston, whilst the Parochial Board are unable to remedy matters for lack of funds.

The survey of the areas in both parishes yielded as follows:—

Saint Ann—

	No. 1 Area St. Ann's Bay.	No. 2 & 3 Areas Claremont-Ocho Rios.	Total.
Number on Census	10,551	9,359	19,910
Number of premises	2,075	1,945	4,020
Number with sanitary latrines ..	80	77	157
Number with insanitary latrines ..	786	350	1,136
Number without a latrine of any kind	1,209	1,518	2,727
Unoccupied premises	61	102	163

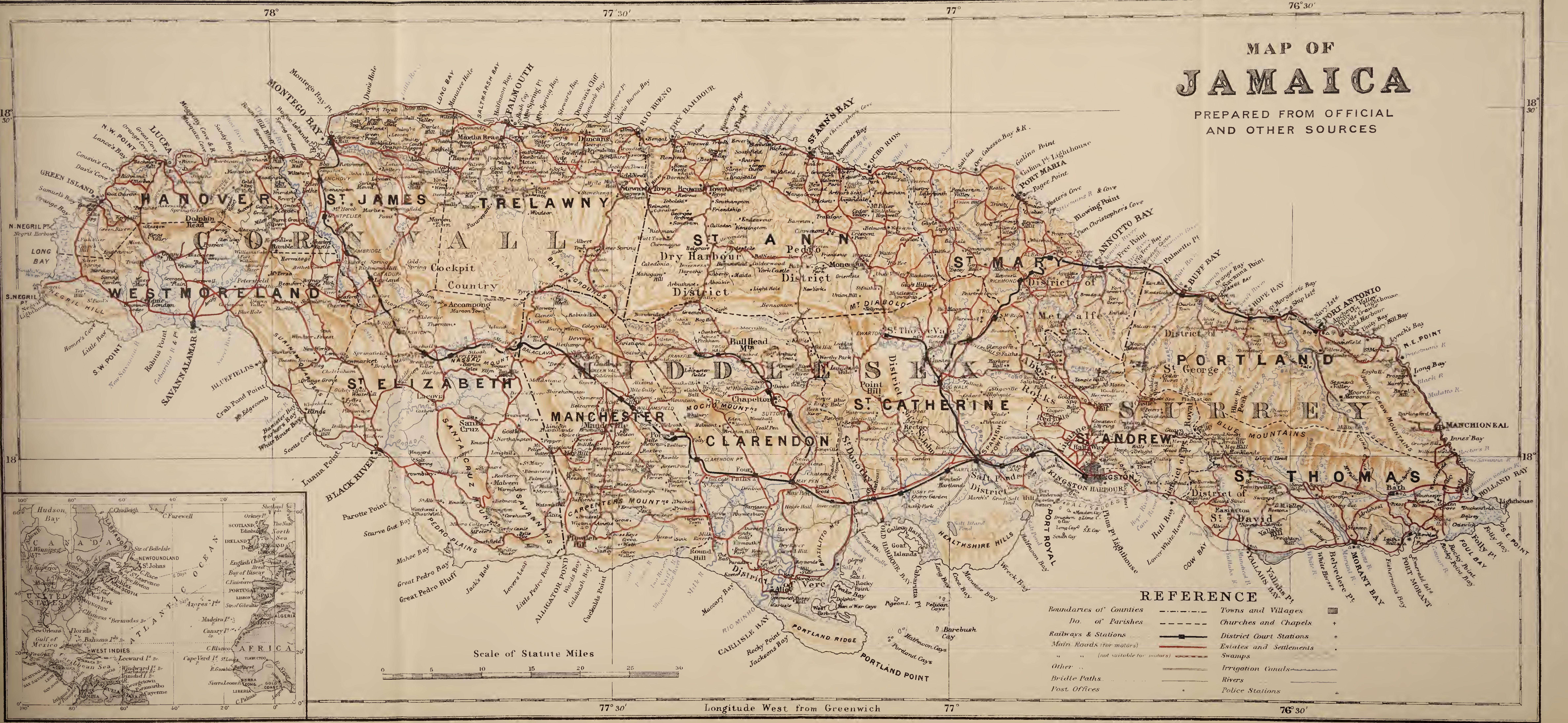
Saint Thomas—

	Eastern Division No. 1 Area.	
(a) Number on Census	10,581	
(b) Number on premises	2,224	
(c) Number with sanitary latrines ..	33	
(d) Number with insanitary latrines ..	455	
(e) Number without a latrine of any kind	1,736	(Approx. 80%)
(f) Unoccupied premises	8	

Note.—The population (a) includes barracks' occupants on estates at normal. The population on Duckenfield and Golden Grove at the commencement of crop, has more than doubled.

(d) Includes insanitary latrines on Duckenfield and Golden Grove.

J. R. Walker,
Overseer of Works,
Hookworm Campaign.



Revised to 1929

Stanford's Geographical Establishment, London